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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Surgical Reports.* By GEORGE H. PORTER, F.R.C.S.I.; President of the Royal College of Surgeons in Ireland; Senior Surgeon Meath Hospital and County of Dublin Infirmary; Surgeon to Simpson's Hospital; President of the Surgical Society of Ireland; Vice-President of the Pathological Society of Dublin.

I.—PATIENT (A FEMALE), AGED FORTY-FIVE YEARS—LARGE PHOSPHATIC CALCULUS—LITHOTRITY—RECOVERY.

II.—PATIENT, AGED FORTY YEARS—SMALL LITHATE CALCULUS—LITHOTRITY—RECOVERY.

III.—AN ARTERY COMPRESSOR, SUGGESTED FOR THE TREATMENT OF SOME SURGICAL ANEURISMS.

I.—*Patient (a Female), aged Forty-five Years—Large Phosphatic Calculus—Lithotrity—Recovery.*

ALTHOUGH not exempt from calculous complaints, the occurrence of stone in the urinary bladder of the female is rare when compared with the male. The short urethra, devoid of natural contractions, but slightly curved, and the absence of a prostate gland at the

neck of the bladder, explain why the surgeon is less frequently called upon to interfere by operative measures to relieve the patient. Nature unaided often expels the foreign body.

In Mr. Coulson's work on "Lithotrity and Lithotomy," published in 1853, he quotes from tables of M. Civiale an important fact, that out of 2,834 patients operated on in France 2,711 were males, 123 females, or one in twenty-two.

In the first place, then, the rarity of the disease, and secondly, from its possessing some features of a practical character, I am induced to record the following case:—

J. L., aged forty-five years, married, was sent to me by my friend, Dr. Evory Kennedy, and admitted into the Meath Hospital, December 24th, 1867.

History.—She had suffered from constant irritability of the bladder and rectum for a year and nine months previously. She had consulted a medical practitioner, and he, looking upon the case as one of uterine disease, treated her accordingly for several months; but not having obtained any permanent relief of the distressing symptoms, she was sent by a lady, who took a great interest in her, to Dr. Kennedy. He carefully investigated her condition, and being satisfied that no disease of the womb was present, sounded her bladder, and for the first time detected a large calculus, and thus arrived at the source of her suffering. Even before he introduced an instrument he discovered the presence of the stone by a vaginal examination.

He had an analysis of the patient's urine made by Dr. Wm. D. Moore, whose experience is well known to the profession, and the following was the result:—

"The urine is exceedingly turbid, highly albuminous, strongly alkaline, free from sugar, and contains but little urea. Its specific gravity is 1.015. On standing it deposits an enormous amount of ropy pus entangling numerous blood corpuscles and crystals of triple phosphate, some epithelium and earthy phosphate. Vibriones also, not in motion, are seen under the microscope."

Dr. Kennedy kindly placed the woman under my care in the Meath Hospital.

Symptoms on Admission.—She looked worn, and depressed in spirits, although possessed of the frame of a fine looking person of her age. She complained of constant and severe bearing down pain at the anus, and frequent desire to pass water. Her urine

was scanty, high coloured, turbid, and tinged with blood, at times resembling port wine and water. Occasionally she was unable to retain it, and it dribbled away. She was also troubled with a dull pain in her back which frequently shot down her thighs. Her sleep was almost gone, and when she had any it was unrefreshing and disturbed. There was no sudden stoppage of the stream during micturition, but the pain on emptying the bladder was excruciating. She had not ceased to menstruate, and described her sufferings at that period as greatly aggravated.

December 26th, 1867.—I sounded for, caught, and measured the stone with Sir H. Thompson's flat-bladed lithotrite, which was introduced with ease, her urethra being large. The diameter in which I seized it measured one inch and a quarter. The instrument on striking the calculus gave the sensation of its not being hard, but that well known ring on coming in contact with a phosphatic stone. She suffered but little from the examination. I placed a quarter grain morphine suppository in her rectum, and ordered that she should have plenty of oatmeal tea to drink, and at night one drachm of camphorated tincture of opium in a wine glassful of the oatmeal tea.

December 27th.—The first sitting was performed, assisted by my colleagues, and in the presence of Dr. Kennedy, who kindly accepted my invitation to the operation. As the introduction of the lithotrite on the former occasion gave so little inconvenience, I did not deem it necessary to administer chloroform. She was placed in the position for lithotrity on a firm table, in the operating theatre, with folded blankets under her pelvis, and held by my assistants. I injected about four ounces of tepid water into the bladder, but it was immediately expelled. I then introduced the flat-bladed lithotrite, warmed in hot water, and well oiled (from the sounding and measurement I was certain this instrument was powerful enough to deal with the stone), and having felt the calculus, I opened the blades almost to the fullest extent, without difficulty caught it, and screwed home the instrument, which easily crushed it with an audible crack. Five times I opened the lithotrite, seized fragments and shattered them, and then ceased, as two minutes had been occupied, and the patient seemed tired. Twenty-three grains of detritus were brought away in the jaws, and eighteen grains more were washed out by means of Clover's syringe, which I used immediately after withdrawing the lithotrite. Five o'clock p.m., the same evening, she was free

from pain, her urine was but slightly tinged with blood, and twenty-seven grains of *debris* had passed since the operation. Ordered to have a glass of champagne, and a morphine suppository to be introduced at bed-time.

December 28th.—She had passed a good night, although micturition had been frequent. Her urine had now become clear, and forty-one grains of detritus had been expelled up to six o'clock, a.m. A vaginal examination permitted a number of broken fragments to be felt in the bladder. Ordered chicken for dinner, and four ounces of wine.

December 29th.—She had slept well, as the calls to make water had not been at all so pressing. Twenty-nine grains of fragments had been washed out by the flow of urine. She could turn freely on either side, which she had not been able to do for months previously without pain, and described her state as greatly improved in every respect.

December 31st.—The second sitting took place; four fragments of considerable dimensions were caught in the flat-bladed lithotrite, and crushed. Twenty-eight grains of detritus were removed in the instrument and by means of washing out with Clover's apparatus.

January 1st, 1868.—She had a most comfortable night, having been disturbed only three times; thirty-eight grains of detritus got rid of.

January 2nd—She had passed water only twice during the night; eleven grains of stone expelled.

January 3rd.—She was allowed to sit up for three hours. Seven large pieces of calculus passed away; their aggregate weight was 155 grains; one of them contained the nucleus of the stone.

January 6th.—She was up all day, and walking about the ward; she suffered no pain whatever, nor had she any difficulty in retaining her urine. No detritus passed.

January 8th.—A single fragment, weighing twenty-two grains, came away.

January 11th.—The third sitting took place. Two fragments were seized, and broken; five grains of crushed calculus were removed in the lithotrite.

January 12th.—She passed a good night. Forty-three grains of detritus expelled.

January 14th.—I sounded her bladder and felt a small fragment, but did not succeed in catching it.

January 20th.—The fourth and last sitting. I caught a fragment in the lithotrite, and extracted it without crushing; it weighed twenty-seven grains.

After this sitting she never felt the slightest inconvenience, all irritability of the bladder ceased, and she expressed herself perfectly well.

I had a small portion of the stone analysed by Dr. Moore, and the following was the result:—

The calculus consists of a mixture of triple phosphate and phosphate of lime, but not in the proportion to form the "fusible calculus."

The patient left the hospital on January 25th, quite well.

This case points out the instructive lesson, how easily a practitioner may be led astray, and confound a case of stone in the female bladder for disease of the womb. Holmes, in his *System of Surgery*, alludes to this error. In Vol. iv., page 476, when describing the symptoms of stone in the female bladder, he says:—"The symptoms often simulate those of uterine disease, for which they are not unfrequently mistaken; so that the surgeon should be on his guard, and on failure of detecting uterine mischief, he is bound to pay special attention to the bladder and rectum."

It is also an example of a large stone in the female urinary bladder removed by crushing, and thereby saving the patient from the unhappy consequences of incontinence of urine, resulting from forcible dilatation of the urethra, or vesico-vaginal fistula, if removed by incision through the wall of the vagina. The stone was disintegrated by the lithotrite, and washed out by the stream of urine, aided occasionally by the use of Clover's syringe. It has been recommended by some to use a shorter instrument with the female, but I cannot too strongly express my admiration of Sir H. Thompson's lithotrites, they are so easily manipulated, and at the same time so powerful, that they leave nothing to be desired. The debris of the calculus removed from this woman weighed one ounce two drachms and fifteen grains. I have frequently heard from her since, and she is in the enjoyment of perfect health.

II.—*Patient aged Forty Years—Small Lithate Calculus—Lithotrity—Recovery.*

I have selected the following case from my note book, as it possesses some remarkable features:—

Mr. B., aged forty years, was placed under my care on the 9th

June, 1868, by my friend Mr. Smyly, he being obliged to leave town the following day for a tour on the Continent.

History.—Thirteen years previously he had suffered from symptoms of renal calculus. His urine was generally of a dark colour, and at times contained flakes of mucous, with small clots of blood.

June 27th, 1865.—During micturition the stream suddenly stopped, and the patient experienced a dreadful cutting pain in the neck of his bladder. After a few moments the water again commenced to flow, but in a much diminished stream, and highly stained with blood. Prior to this date he was not sensible of any foreign body in his bladder. For some days after the viscus could not tolerate the presence of more than a few drops of urine without causing a desire to void it, and that effort always gave rise to great pain.

He gradually got relief, but still the stream occasionally stopped suddenly, and when it came again was greatly lessened in volume and force. He did not seek surgical aid until the autumn of 1864. Mr. Smyly then passed a bougie, and felt a stone just as the instrument entered the bladder. It gave the sensation as if the calculus was fixed, and imbedded in the prostate gland.

In the month of February, 1865, he was again attacked with severe symptoms of stone in the left kidney, and after suffering much during its passage through the ureter to his bladder he expelled it during micturition. He did not again obtain advice until February, 1868, when he placed himself under the care of Mr. Smyly. He detected the calculus as before lying at the entrance of the prostate, and firmly lodged in its position. Having dilated the urethra by the use of bougies, gradually increased in size, Mr. Smyly made a careful examination with the endoscope, and observed what appeared to be a calculus imbedded in a mass of granulations. He continued the introduction of a large-sized bougie twice or thrice a week. This, by its pressure, caused the stone to become more and more exposed, where it lay beneath, and to the left side of the internal orifice of the urethra.

The patient was in the habit of occasionally introducing a bougie himself, and often felt the stone. Being very ingenious, he constructed instruments by which he hoped to extract, or, at least, to dislodge the foreign body from its situation.

June 9th, 1868.—I sounded him with Sir Henry Thompson's flat-bladed lithotrite. I distinctly felt the stone as the instrument

entered the bladder, but could not detect it whilst exploring the cavity of the viscus. On withdrawing the lithotrite I found its polished shaft scratched at the point, where it rotated on the stone, and subsequently, as I withdrew the instrument, I felt it.

I did not again introduce the lithotrite until July 1st, when I received intelligence from my patient that he had succeeded by means of a contrivance of his own in pushing back the calculus into the cavity of the bladder, and that he felt it in quite a different locality. He had the day previously constructed an instrument out of a piece of wire, the end of which he turned into a loop. By means of this he entangled the stone, and aided by passing a finger of his left hand into the rectum he forced the calculus from the site in which it had been impacted.

I placed him in position for lithotrity (he would not have chloroform administered), and introduced Sir Henry Thompson's flat-bladed lithotrite, and immediately discovered that his conjecture was perfectly correct. I felt the stone lying at the bottom of the bladder. I opened the blades, gently turned them down to the right side, and seized the calculus, which measured, in the diameter caught, half an inch. I screwed home the blades, and crushed it. I opened the instrument three times to seek for fragments, but without success. I then withdrew it, and carried out in its jaws three grains of detritus. I placed a quarter grain morphine suppository in his rectum, and desired him to remain in bed and drink freely of oatmeal tea.

July 2nd.—He had passed a good night. Nine grains of detritus escaped with the urine. At four o'clock, a.m., a large fragment became arrested at the orifice of the urethra, and at my visit I removed this by means of Weiss' urethra lithotrite, as I found it impossible to extract it entire. It weighed ten grains.

July 3rd.—He had a good night's rest, but a piece which weighed two grains became arrested in the urethra about three inches behind the orifice. I removed it by gently passing the female blade of the instrument beyond the fragment, and then pushed the male blade down on it, which, having seized, I withdrew it slowly in the little jaws of the instrument. He suffered but slight inconvenience from the operation, and expressed that he had been much relieved.

July 5th.—I sounded my patient, and could not discover any trace of the calculus in his bladder. I injected his bladder, and washed it out with Clover's syringe; not the smallest trace of

detritus could be discovered. From this date he lost all symptoms of his complaint, and is at present in the enjoyment of perfect health.

The feature of interest in this case was the great length of time the stone remained impacted without increasing in dimensions. I can, from my experience, speak highly of the advantage in many cases of sounding with the flat-bladed lithotrite of Sir H. Thompson. It may be rotated in the bladder as easily as a sound, and should the calculus be found small, it can be shattered at once, without the inconvenience both to patient and surgeon which must take place when two instruments are used at different times.

III.—*An Artery Compressor suggested for the Treatment of some Surgical Aneurisms.*

Independent of the ligature, various attempts have been made to arrest the current of blood through exposed arteries, and to occlude them rapidly, or by degrees. Most ingenious appliances have been devised for the purpose, but they have never met with much favour at the hands of practical surgeons. Yet how painful it is to meet with cases of aneurism in situations where the experience of bold and able men tells that little can be done to save life. Among those who have endeavoured to close arteries without cutting through their coats may be mentioned Crampton, Percy, Deschamps, L'Estrange, Assalini, Dubois. If, however, their instruments be scrutinized, I think it will be found that the disturbance to the vessel both in applying and removing them was too great, and the amount of pressure far beyond that required. In some situations the ligature has invariably failed, secondary hemorrhage following its separation. To meet such difficulties is my object. That the axillary artery could be compressed between a silver probe and loop of wire for *fifty-two hours* without damaging the vessel, I perfectly satisfied myself. I reported the case in the number of this Journal for November, 1867. In the instance I refer to the artery was not occluded, but considerably narrowed at the point of acupressure. No laceration of either the internal or middle coat took place, nor do I believe such a condition requisite to close a vessel.

Strongly impressed with such an idea, I consider a modification of acupressure may yet be brought to aid the practical surgeon in the cure of aneurisms hitherto unmanageable. The little instrument I venture to suggest to the profession is in reality a form of acupres-

sure, simple in construction, easy of application, and yet powerful in restraining the current of blood, without rudely inflicting injury on the arterial coats. It consists of a piece of silver wire about the strength of an ordinary probe; this is bent into a triangular shape about four inches in length, and the apex surmounted by a small ring; the base is perforated by two little apertures just large enough to permit a fine wire to pass easily through. The wire is first carried round the denuded artery in an aneurism needle with greater facility than a thick ligature, and each extremity of it passed through the holes in the compressor; one end should be fastened by twisting it through the little ring at the top, and the compressor may then be gently pushed down on the vessel, when, by pulling the free end of the wire, the requisite pressure may be made to arrest the flow of blood through the artery. The lithograph, Plate I., gives an accurate representation of the compressor, and the manner in which the wire is passed through, forming the loop which, with the instrument, encloses the vessel in such a manner that slipping is impossible. When the artery is sufficiently occluded to stop the current, the free wire may be fastened also to the ring. The instrument can be removed with the greatest facility when pressure is no longer required, by cutting the wire at each side, lifting up the compressor, and then gently pulling the wire away from beneath the artery. I have placed this instrument on the femoral artery in the dead subject, and it closed the vessel so tightly that it prevented the injection of water through the artery, and the internal coat was not in the slightest degree injured. I have not had an opportunity of testing it in the living, but I suggest it to the notice of my professional brethren, hoping that they may be induced to give it a trial. We know that aneurisms have become consolidated, and cured in a few hours after shutting off the supply of blood to the sac, and should such a happy result follow the use of this instrument, it might at once be removed without having done any injury to the vessel; or if, on the other hand, it had been permitted to remain for fifty or sixty hours without curing the aneurism, it might be taken away, no harm having been done by its presence. It is so light in construction that no inconvenience is likely to be produced whilst in the wound leading to the denuded artery. Its action imitates, as nearly as possible, acupressure, which we know *efficiently* closes the cut extremities of large arteries.

ART. II.—*On the Diagnosis and Treatment of Uterine Polypi.* By GEORGE H. KIDD, M.D., Fellow of the Royal College of Surgeons in Ireland; Obstetric Surgeon to the Coombe Lying-in Hospital, Dublin.

UTERINE polypi are found either within the uterus, or partly within and partly without, or completely without, growing from the vaginal portion of the cervix. In the following observations I propose to refer chiefly to the diagnosis and treatment of those found in the first of these situations, that is, of polypi growing from the inner surface of the uterus, and still retained within its cavity, but as there are many features in the histories of some of the uterine polypi in other situations that have come before me, which illustrate important points of both diagnosis and treatment, I shall also relate some of these cases as I proceed.

Intra-uterine polypi may grow in any of the regions of the uterus into which anatomists are in the habit of dividing that organ, that is from the fundus, the body, or the cervix; as they enlarge they may gradually pass downwards till they escape through the os and come to lie in the vagina or even protrude through the vulva; or they may give rise to a train of symptoms involving the comfort, health, and even life of the patient before they pass out of the region within which they had their origin. They commence either in the mucous membrane or in the uterine substance itself, especially in its connective or submucous tissue. Of those which spring from the mucous membrane three varieties are met with, of each of which examples will be found in the following cases. Of those that grow in the uterine tissue authors describe two forms, one of very frequent occurrence—the fibrous, and the other rare, the muscular—but the distinction is more of anatomical than practical importance, and we may safely use the term fibrous to include both. The truly extra-uterine polypus, or that which grows from the vaginal portion of the cervix, also has its origin in the uterine tissue, and is almost always fibrous, but may also have so much muscular substance in its structure as to deserve the name of muscular in an anatomical description.

Hemorrhage is the symptom that first attracts the patient's attention in cases of polypus, and in no case of persistent and uncontrollable bleeding, in non-pregnant women, should the probability of the existence of a polypus in some part of the uterine

canal be forgotten, especially if no other cause for the hemorrhage be apparent. Leucorrhea is another very constant symptom, the discharge having the peculiar character of the cervical leucorrhea of authors—ropy and tenacious, very difficult of removal, resisting even rough rubbing with sponge or cotton, clear and transparent, resembling, as it escapes from the os, the white of an unboiled egg, and often streaked with blood. This symptom exists chiefly with the small cystic polypus that grows in the canal of the cervix, and it is accompanied with a patulous condition of the os. When the polypus is small and still in the cavity of the body of the uterus, the os is generally of the normal size, or may be even less. When the polypus is situated so as to obstruct the exit of fluid from the uterus, it may give rise to excessive pain in menstruation, and expulsive, or bearing down pains may also occur where the uterus is enlarged, either by the retention of fluids in its cavity or by the growth of the tumour, but none of these symptoms, nor yet the reflex irritations that generally accompany them, are sufficient to prove the existence of a polypus. In all cases, however, in which such symptoms, or some of them, are present, and do not yield to treatment, the existence of polypus should be suspected, and a careful physical examination of the uterus be made.

A polypus in the cavity of the body of the uterus causes the whole organ to grow in the same way that the ovum does in early pregnancy. Hence the cavity becomes enlarged and elongated, and the walls thickened and hypertrophied. If the polypus be of any size the fundus of the uterus will be felt in the hypogastric region, of irregular form, it may be, depending on the form of the polypus. When the enlargement is not so great it may still be recognized by the finger in the vagina, and the fundus may be traced by the bi-manual method of Marion Sims, but even though we have hemorrhage and the other symptoms enumerated, along with an elongated uterine cavity as measured with the sound, and an enlarged and irregular fundus, we cannot absolutely declare the existence of a polypus, inasmuch as all these signs, like the symptoms, may depend on other causes.

Moreover, not only may these signs and symptoms exist without there being any polypus present, but we may have a polypus without any enlargement of the uterus, as when it grows in the cervix, and is of the small size usual in this situation, or when, even though in the cavity of the body of the uterus, it is of such small size that the elongation of the cavity, as measured with the sound,

is scarcely appreciable; and yet, small as the growth is, it may, if not removed, run the patient down by hemorrhage.

The only certain proof of the existence of a polypus is the detection of it by the eye or finger, and, therefore, when from persistent hemorrhage or other cause, we suspect the presence of such a growth, and cannot otherwise discover it, we must dilate the uterine canal so as to be able to pass a finger to the very fundus, and make a minute and careful digital examination of the cavity throughout its whole extent.

The use of prepared sponge for the dilatation of narrow passages dates from the earliest ages of surgery, but, till suggested by Sir James Simpson, the exploration of the uterus by its means had not been attempted; and of the many improvements in surgery for which we are indebted to him, this is not the least important. His original paper describing this method was read before the Medico-Chirurgical Society of Edinburgh, in 1844, and in a second paper read before the same society, in 1849, Sir James has shown that till then intra uterine polypi "were generally considered as placed beyond the pale of any certain means of detection, or any possible means of operative removal." Though the dilating of the uterus, to allow of its being explored by the finger, marks the commencement of a new era in uterine surgery, and the principle must ever stand, yet the precise method first adopted is open to many and serious objections, so much so that Dr. Marion Sims, notwithstanding his warm advocacy of their use, states in his "Notes on Uterine Surgery," that he never introduces sponge tents if he can possibly avoid it, and declares that "he who gives us an efficient, pleasant, and cheap substitute for them, will confer a great boon on surgery." These objections have been set forth at length in a paper read by me at the meeting of the British Medical Association in Oxford, and they may be summed up as follows:—

1. Sponge tents become abominably fetid when a few hours in the uterus.

2. By the retention of fetid and offensive discharges in contact with the interior of the uterus, they not unfrequently give rise to metritis of an unhealthy character, and sometimes, by poisoning the blood itself, to fatal pyemia.

3. Repeated and prolonged applications of them are required to get at the cavity of the uterus.

4. They dilate the os externum far beyond what is required, before they open the os internum.

To examine the interior of the uterus, "the persevering use of a series of larger and larger tents for several days" is, according to Sir James Simpson, usually requisite; yet, so much is Marion Sims afraid of metritis, that he does not allow the first tent to remain in the uterus for more than six to eight hours, and if the second tent fail to dilate the cervix sufficiently, he directs us not to persevere further, but to wait a few days and then resort to it again.

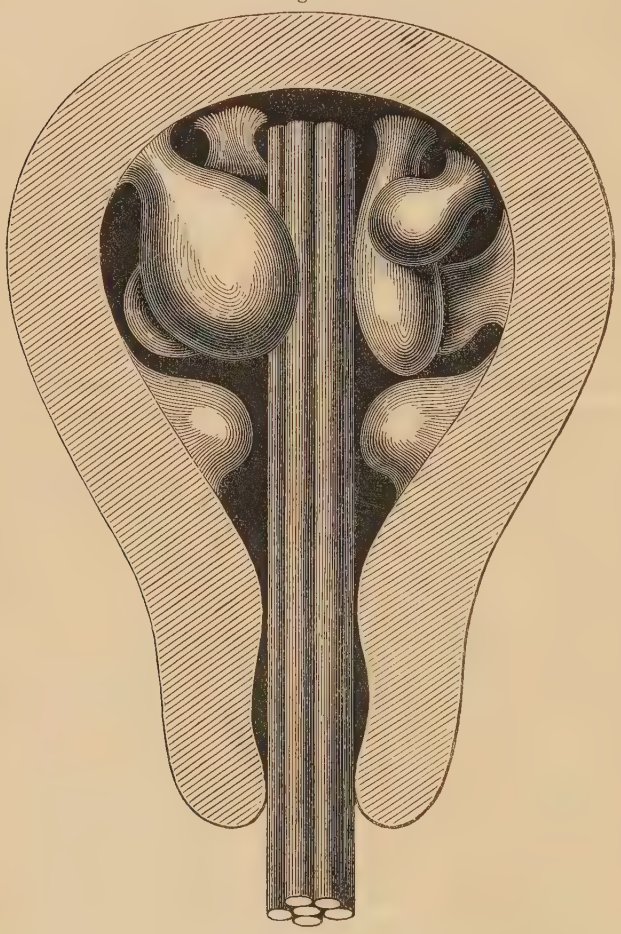
Since Dr. Sloan introduced the dried sea-tangle to the notice of the profession it has been very much adopted instead of prepared sponge for surgical purposes; but in uterine cases the same objections apply to it, as it is ordinarily used, as to the prepared sponge, except that it does not become fetid. The persevering use of a series of larger and larger tents, with its accompanying risks, is still required, and the canal is so irregularly dilated that the os internum may not be large enough to admit the point of the finger, when the os externum is much wider than there is any necessity for it to be; but applied in the manner described in the paper referred to, the sea-tangle is free from all these objections, and seems to me not only to supply the boon to surgery desired by Marion Sims, by being an efficient, pleasant, and cheap substitute for sponge tents, but to be more easy of application, more prompt in dilating the uterus, and, above all, more safe in its action.

This method of using sea-tangle tents is shown in the following figure, which represents a uterus containing a number of polypi, and having six tents passed through the os up to the fundus. It is founded on an observation, the correctness of which is easily ascertained—that when the uterine tissues are relaxed by hemorrhage, a fine tent can be passed at once through the whole length of the cervix and on to the fundus, and by a little care a number of fine tents can be packed alongside of one another in the canal, when a single large one, though not nearly of the size of the bundle so formed, could not be passed at all. The first tent introduced serves as a guide to the others, and when they absorb fluid and swell out, they not only dilate the os internum as much as the os externum, but also the cavity of the uterus itself, and thereby provide room for the manipulations necessary for the removal of the polypi, if any are found to exist.

I first used sea-tangle tents in the manner now described in the case of a lady, residing some miles out of Dublin, whom I was asked to see by my hospital colleague, Dr. Sawyer, on the 4th of May, 1867, on account of persistent hemorrhage, when it answered

the purpose so well that I have ever since adopted the same method, and with the most satisfactory results. In one case, the

Fig. 1.



full particulars of which will be found further on, where the patient, though married seven years, had never borne children, the os was so small that it was necessary to leave a single fine tent in it for some time before a sufficient number could be got in to effect a dilatation large enough to admit the finger, but it is the only case I have met with out of a large number where such a proceeding was necessary.

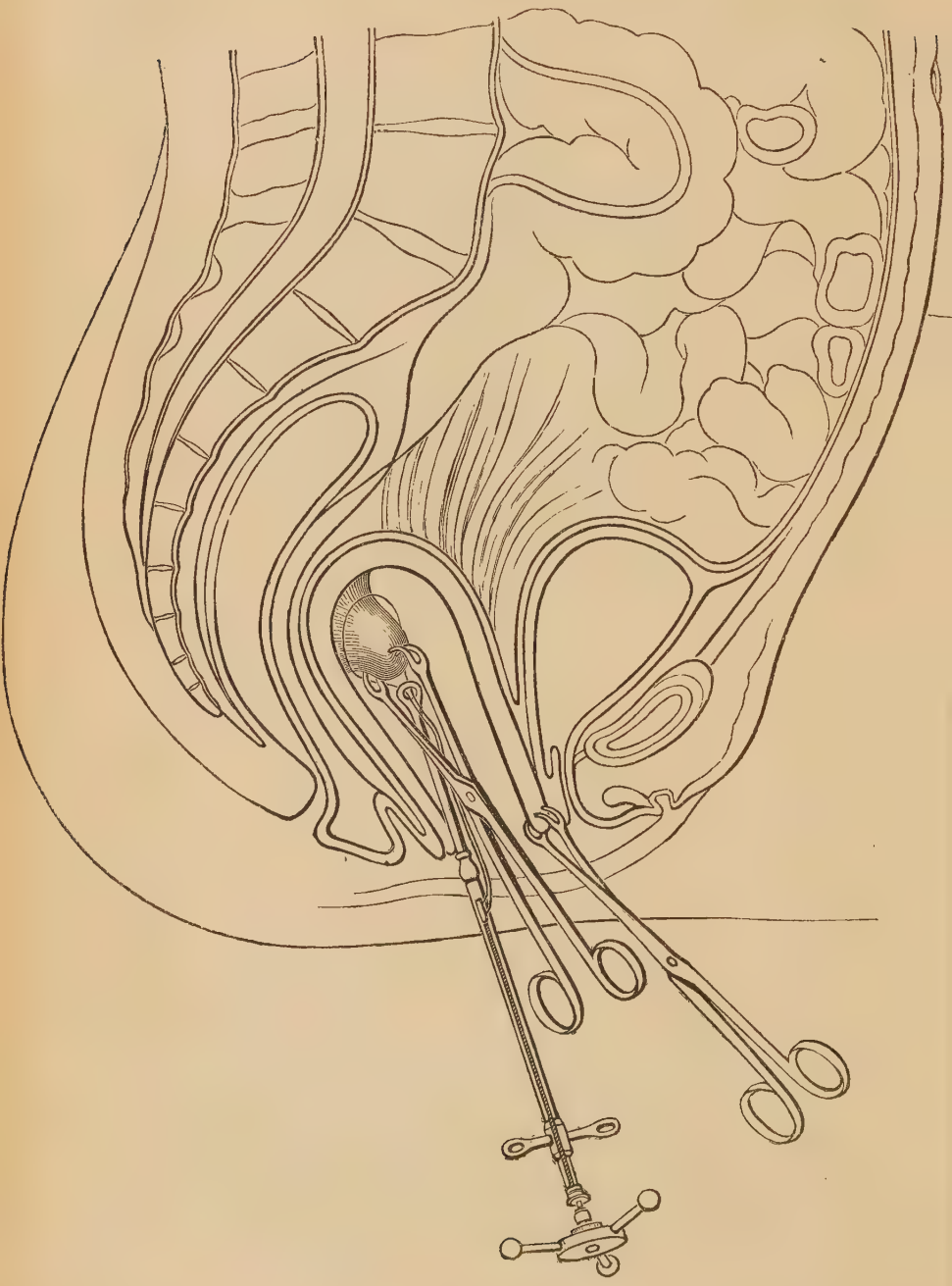
When it is determined to explore the uterus after this manner

the patient is placed in the usual obstetric position, and the length of the uterine cavity is carefully measured by means of the sound. A No. 5 or 6 sea-tangle bougie is now cut into pieces a little longer than the uterine cavity, and the ends rounded off and smoothed. The patient is now desired to put her left arm behind her back, and to lie almost completely on her face, with her right leg drawn up and thrown in advance of the other—that is, in the semi-prone position of Sims. The "duck-bill" speculum is now introduced and given to an assistant to hold, the anterior lip of the os uteri seized with a fine tenaculum, the os having been brought into view and steadied in this manner, as many of the pieces of sea-tangle as can be got in without using force are passed one after another, till they almost touch but do not press on the fundus. Five or six pieces of a No. 6 bougie will dilate the uterus sufficiently for all purposes; and when these have been got in, the tenaculum and speculum are withdrawn and the patient is settled in bed, when a morphia suppository may be administered. If the uterus make expulsive efforts, it may be well to leave a pledget of cotton in the vagina; but if the tents do not actually touch the fundus the uterus does not generally try to expel them.

At the expiration of twenty-four hours the exploration may be proceeded with. The tents are easily removed by seizing them, one after another, with a toothed forceps. The patient must now be brought fully under the influence of chloroform, and then placed in the semi-prone position as before, when the anterior lip of the uterus must be laid hold of by means of a large strong vulsellum, and slowly and gradually, but steadily, drawn down to the vulva. If the blades of the vulsellum be not strong and firm they will spring at this stage of the operation and tear the uterus, and the instrument must be made so that the points when closed will fairly meet and glide past one another without making fresh openings in the tissues, and when completely closed the blades must have ample space between them for the lip of the uterus, that it may not be in any way compressed, no matter how firmly the handles are held. This stage of the operation is clearly shown in the following figure.

The uterus being brought down and fixed in this way, the vulsellum is given over to an assistant, who is directed to hold it steadily, and the forefinger of the right hand is now passed up into the uterus and its interior carefully examined, which will be much facilitated by placing the left hand over the fundus and pressing

Fig. 2.



this part down on the finger. If a polypus be discovered a tolerably fine vulsellum is now passed along the finger in the uterus, and guided by it to the tumour, which is then seized. The finger is now withdrawn, and an ecraseur, armed with a single soft iron wire, is passed in, guided by the vulsellum in which the polypus is held. The loop of the wire is first passed over the handle of the vulsellum, and then the point of the ecraseur is placed against the blades of the vulsellum and run up as far as it will go. This stage of the operation is also shown in Fig. 2.

The finger may now again be passed into the uterus so as to press the wire well down on the polypus; but if the eye of the ecraseur be passed well up to the uterine wall it will of itself draw the wire into its place. In the engraving the ecraseur is shown as just about to be pressed up "home" to the root of the polypus. When the ecraseur is fixed in its place it is held steadily, and the wire slowly screwed up till it cut through the peduncle, when ecraseur, polypus, and vulsellum all come away together. The finger should now be again passed in, and if no more tumours be discovered the interior of the uterus may be brushed over with a saturated solution of the perchloride of iron in glycerine, and the patient may be put to bed and allowed to sleep off the effects of the chloroform. For a few days the vagina should be syringed out with tepid water.

I have now operated in many cases by this method, and I have also tried the plan of passing the entire hand into the vagina instead of drawing down the uterus, and also the plan of pressing down the uterus by a hand placed over the hypogastrium without passing the hand into the vagina or using any vulsellum for drawing it down, and am convinced that these methods do more violence to the surrounding parts, are less efficient, and are more irksome to the operator than the proceeding just described. If the polypi be large and come into view, or can be seized, the drawing down of the uterus is, of course, unnecessary; but when they are small and concealed from view, I am convinced the foregoing is the safest way of operating.

INTRA-UTERINE FIBROUS POLYPI.

Intra-uterine fibrous polypi arise most frequently from the fundus of the uterus, or that portion lying between and above the openings of the Fallopian tubes, but they may also arise from some portion of the walls of the body, and are very rarely met with springing from the

walls of the cavity of the cervix. Arising in any of these situations the polypus commences as a round submucous elevation which in general becomes pedunculated, and suspended with its largest portion free in the distended cavity of the uterus, but it sometimes remains sessile. In either case it may in the progress of its growth come to rest on and close the os internum, forming there a sort of ball valve, and preventing the exit of any fluid that may be poured into the cavity of the uterus, as occurred in Case No. II., where a remarkable train of symptoms arose from this cause. More frequently the tumour passes through the os, and (the peduncle becoming elongated) is gradually extruded from the cavity of the uterus, when it may be found either completely or partly protruded through the os externum, and may be easily recognized and easily removed. Generally speaking, they are single, but not unfrequently we find rudiments of smaller ones, consisting of submucous round elevations adjoining large polypi. Klob,[a] indeed, says that sometimes two are found flattened from contact, but rarely more than two, and in the majority of cases only a single one; and West, contrasting them with fibrous tumours on the outer surface of the uterus, which are seldom solitary, and often very numerous, says,[b] it is rare to find more than one projecting at the same time into the cavity of the uterus. This he thinks due probably to there not being room for more than one tumour at a time within the cavity of the womb, for it is not a very uncommon thing, he says, some months after the removal of one growth, to find another occupying the same situation, producing the same symptoms, and calling once more for a recourse to the same operation. In one of the following cases, however, twenty-nine fibrous polypi were removed within twelve months, at four operations, three at the first, nine at the second, eleven at the third, and six at the fourth. In this respect the case is, so far as I can learn, unique, no similar one having been recorded by any author with whose writings I am acquainted.

Case I.—*Menorrhagia lasting Fourteen Years—Twenty-nine Fibrous Polypi Removed from the Cavity of the Body of the Uterus at Four Operations.*

Miss A., an unmarried lady, aged thirty-six, was placed under

[a] Pathological Anatomy of the Female Sexual Organs. Translated by Kammerer and Dawson, p. 153.

[b] Lectures on Diseases of Women. 3rd ed., p. 264.

my care by Dr. Martin, one of the physicians to Jervis-street Hospital, on the 22nd August, 1867, and admitted by me as a patient into the ward for diseases of women, in the Coombe Lying-in Hospital. She had been a governess, but had been reduced to poverty by ill health, consequent on menorrhagia, from which she had suffered for fourteen years. During this time she had been treated by several physicians, and in many hospitals; but, till she came under my care in the Coombe Hospital, and I insisted on being allowed to do so, no examination of the uterus had been made. When I examined it I found it enlarged so that the fundus could be felt above the pubes. It was somewhat irregular in its outline, and its cavity measured an inch longer than it ought to do, but the os and cervix were apparently quite healthy. She was blanched from the loss of blood, her extremities were œdematous, her breathing was short and panting, and her debility was extreme. On consultation with my hospital colleagues, Drs. Ringland and Sawyer, and with Dr. Beatty, who kindly saw the case with us, it was agreed to explore the cavity, and for this purpose six pieces of sea-tangle were introduced on the 5th of September, 1867, in the manner just described. On the following day the finger was passed into the cavity up to the fundus with great ease, and so well was the canal dilated that we could even see one of the tumours lying above the os internum. Three tumours, each as large as a pigeon's egg, were found and removed with the ecraseur. The patient was kept in bed for a week, but suffered no pain or inconvenience, and at the expiration of ten days left the hospital.

For a time the menorrhagia ceased and she improved in health, but the hemorrhage gradually returned, and in the month of March, 1868, she applied to be re-admitted into the hospital. The uterus was enlarged even more than it had been before, and again we dilated it and found a group of tumours filling it up. Dr. Beatty was still good enough to lend his valuable assistance, and with his help and that of my colleagues, I removed nine polypi, some of them large and pedunculated, others as small as a pea and sessile.

She recovered from this operation quite as well as on the previous occasion; but, although every tumour that could be discovered was carefully removed, the uterus never resumed its normal size; it remained large, and could still be felt above the pubes. The next menstruation was, however, healthy, both as to the quantity and character of the discharge; but in April the hemorrhage returned, and in May it was as bad as it had ever been, if not worse. The

uterus was now greatly enlarged; it could be felt above the pubes as large as a man's shut hand, and the sound passed into its cavity nearly four inches. On the 16th May we again dilated the os, which was as small and apparently healthy as ever. We now removed eleven tumours, four of which were pedunculated and grew from the fundus, and were nearly as large as any of those that had been previously removed; the others were smaller and sessile.

After they were all removed we painted over the whole surface of the uterus very freely with a saturated solution of the perchloride of iron in glycerine. For some days after the operation there was fulness, with pain and tenderness, in the lower part of the abdomen; but these symptoms quickly yielded to the use of poultices and injections of tepid water into the vagina, and on the tenth day the patient was able to be up and going about. The uterus, however, scarcely diminished in size. The os closed completely, and got into its normal state, as it did after the previous operations, but the body remained large and prominent above the pubes. No menstrual or other discharge took place till the 29th June, when it again occurred, and became hemorrhagic in character and very profuse. Consequently, on the 11th July, I again dilated the uterus, assisted as before by my hospital colleagues and Dr. Beatty, and by Drs. Churchill, M'Clintock, Atthill, and Collis, and I removed six tumours, one as large as a hazel nut, the others smaller in size.

After their removal I applied strong nitric acid freely over the whole of the inner surface of the uterus. On the next day the patient expressed herself as feeling less uncomfortable than after any of the previous operations; the pulse was 104; there was no tenderness of the abdomen; and the only complaint she made was of having a very offensive discharge from the vagina. I had ordered her a grain of opium every second hour after the operation. I now prolonged the interval to every fourth hour, and ordered the vagina to be syringed out, and a poultice to be applied over the hypogastrium. The following day the pulse was down to 96, and there was no fulness, pain, or tenderness, and the day after the pulse was down to 80. There was some purulent discharge from the vagina, but not offensive, and she wished to sit up, which, however, was not allowed, but the poulticing and opium were discontinued. I believe this is the first time strong nitric acid has been applied to the interior of the uterus. I used it at the suggestion of Dr. Ringland, to whom we are, I believe, also indebted for the first suggestion to use this acid in affections of the os and cervix.

The uterus diminished much in size after this operation; it sunk down into the true pelvis, and could no longer be felt above the pubes. On the 1st of August, exactly three weeks after the operation, I made a careful examination. The os was closed, the cervix was in its normal condition, there was no discharge. Examined by the bi-manual method of Marion Sims the fundus could be found regular in its outline, but rather larger than natural, and when measured with the sound its cavity was found to be nearly an inch longer than it ought to be. This patient was kept in the hospital, partly that she might have the benefit of good nourishment, and partly to watch the case; but as the next menstruation was perfectly healthy, she became anxious to leave, which she did on the 9th of October, 1868, and in a short time afterwards undertook engagements as a visiting governess, which she has since continued to fulfil. On the 6th January, 1869, she called on me at my own house, and reported that her menstruation had continued quite healthy—that the periods since she had left the hospital had lasted only four days each, and that she only required to use two napkins each day, notwithstanding that she had to walk a great deal, even during the period, in attending to her pupils. She said she felt strong and well, and "had got a blush in her cheek," all of which her appearance confirmed.

The wood-cut No. 1, at page 14, is a diagramatic view of the condition of the uterus ascertained by the finger to exist at the third operation; but seven of the polypi are shown, the others having been attached to the anterior wall, which is here supposed to have been cut away. The uterus and polypi are shown of the actual size, and six pieces of sea-tangle are shown traversing the whole length of the cavity, and projecting some distance beyond the os, as they should be when first introduced to effect dilatation.

The tumours when removed were subjected to careful microscopical examination, both by myself and Dr. Maurice Collis, and found to be simple fibrous tumours, consisting chiefly of convoluted fibres. The case is thus removed from the class of recurrent fibroids, described by West, Atlee, and Hutchinson.

Case II.—*Symptoms of Cancer of the Uterus — Small Hemorrhages and Offensive Purulent Discharges, lasting Eighteen Months, caused by a Polypus lying on the Os Internum—Polypus Removed by the Ecraseur.*

Mrs. B., aged sixty-four, consulted me on the 2nd April, 1868.

She stated that she had had five children and four miscarriages, the last about nineteen years ago. Since that miscarriage she had never been pregnant, and it was then fourteen years since she had finally ceased to menstruate. She enjoyed very good health till within the last eighteen months. when she began to notice a semi-purulent discharge and occasional small hemorrhages from the vagina, especially after much exertion or intercourse; and soon afterwards a constant brownish-green watery discharge, peculiarly fetid and offensive. Exercise sometimes caused rather free bleeding, and also increased the quantity of the sero-purulent discharge; but there had never been anything of flooding, or a continuous discharge of blood. Sometimes she saw small flakes of reddish skin in the chamber after passing water. When lying in some positions she suffered slight pain, but never of any great amount; and it was evident from her description that the pain was not uterine and not at all severe. She was a healthy active woman, looking some years younger than her stated age; and she informed me her mother was still alive, aged eighty-eight, and healthy and active.

A narrative such as this, notwithstanding the absence of pain, could not fail to raise in my mind apprehensions of cancer; and I fully expected to find this condition on examination, and in rather an advanced stage. The lady's own idea was that something had remained in the uterus since her last miscarriage, which had undergone decomposition and was coming away. She thought the substances observed in the urine were evidences of this; but she was very apprehensive, too, that she had cancer, and begged that I should tell her fully and plainly what I thought of her case.

On examination I found the os and cervix almost quite healthy. There was hypertrophy and induration, but merely such as would be caused by slight chronic inflammation. There was neither scirrhous hardness nor lobular enlargement, and the cervix was quite movable. The appearances presented when the speculum was introduced were those of an almost quite healthy os. When a sound was introduced a hitch was found in passing the os internum. The point of the sound had to be pressed well forwards to get past the obstruction, but, once beyond this, it entered the cavity of the uterus with ease, and showed its length to be more than double what it ought to be. The sound passed in between five and six inches.

It was now evident that, notwithstanding the presence of so many of the symptoms, there was no cancer of the os or cervix, the most usual seat of this disease; but the great enlargement of the cavity of the uterus made me fear there might be a cancerous or other tumour growing at the fundus, and I declined expressing any opinion as to the nature of the case till I should have an opportunity of examining the abdomen when the lady was undressed and in bed. Accordingly, an appointment was made for me to visit her the next day; and when she got up to leave my study I observed that a considerable-sized clot of blood fell on the floor, showing that the use of the sound had caused free bleeding, although I had introduced it most carefully and gently.

When I examined her in bed I failed to feel the uterus in the abdomen, either by ordinary palpation or by the bi-manual method of Sims. She was in very good condition, and had a large amount of sub-cutaneous adipose tissue; but still I was sure that if there had been any solid enlargement of the uterus I should have felt it. I now again introduced the sound, and I could plainly feel its point near the umbilicus, but could not trace the outline of the uterus, proving the absence of any solid deposit, and I concluded there was no cancer of the fundus, and that the enlargement did not depend on a large fibrous tumour, or on the presence of the remains of a retained fetus, as the lady herself had suggested.

On withdrawing the sound I found blood was again escaping from the os, and to control this I passed a bit of cotton wet with a solution of perchloride of iron up the canal of the cervix, fixed in a caustic-holder. When it arrived at the os internum its further progress was obstructed in the same way that the sound had been, and when I pressed it on, the obstruction seemed to yield, and immediately a stream of thick puriform matter escaped, which ceased to flow when I withdrew the instrument. I now passed a tubular sound (Simpson's *porte caustique*) into the uterus, and immediately matter of the same character began to flow, of which I collected between ten and twelve ounces. This fluid was of a thick consistence, of a brownish red colour, with streaks of fresh blood clots through it, and had an abominably offensive odour. It seemed to be decomposed and broken down fibrin, or partially decolourized blood clot.

It was now evident that the enlargement of the uterus was due to its having been distended by fluid, the hematometra or pyometra

of systematic writers, but the source of this fluid, and the cause of its being retained in the uterus, had still to be ascertained.

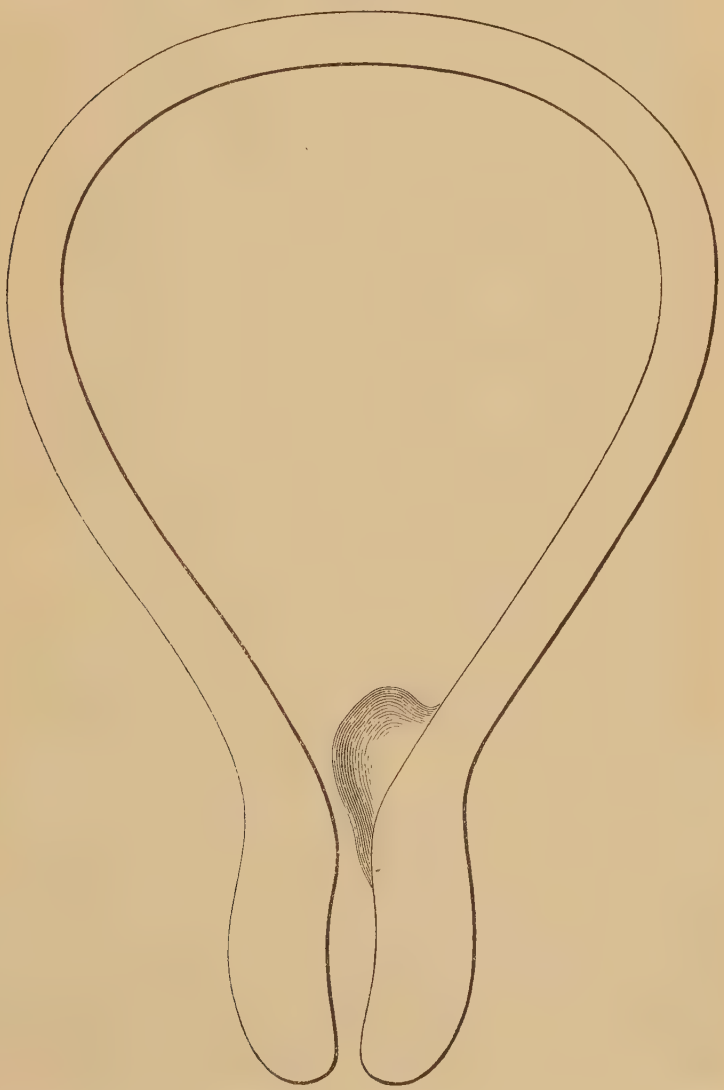
The mobility of the obstruction, its situation at the os internum, its evident attachment to the posterior wall, the freedom with which it bled on being touched, and the quantity and character of the fluid accumulated in the uterus, along with the occasional free bleedings described by the patient, could only, it seemed, be accounted for by the existence of a polypus of small size growing from the posterior wall of the uterus, close to the os internum, and it appeared probable that when hemorrhage arose from this, the blood instead of escaping externally collected in the cavity of the uterus, and gradually distended it, till it had acquired the large dimensions described. The polypus, from its situation at the os internum acted, it was probable, as a ball-valve, so as to prevent the escape of the blood, which, when effused, coagulated, and the serum trickled past the valve, and the retained coagulum became decomposed and broken up into the offensive grumous fluid, of which so much had been drawn off with the hollow sound. Before proceeding further in the investigation of the case, I asked to have another medical man associated with me, and Dr. Denham was selected for the purpose.

We met on the 27th of April, and I explained my views, and pointed out in a sketch where I believed the polypus to be. After a careful examination Dr. Denham quite agreed with me as to the propriety of making the exploration, and we introduced the sea-tangle tents for this purpose. Next day we again met, but found it necessary to introduce fresh tents and dilate the os still further, which we did, and on the 29th we proceeded to explore the uterus. The patient being placed under chloroform, we drew down the uterus with a vulsellum, assisted by a hand placed over the fundus, and so were enabled to get a finger through the os internum and into the cavity, where a small tumour was found growing from the posterior wall at the point I had indicated in the sketch. It was about the size of a small bean, was sessile, but had an elevated fold of mucous membrane running down from it into the canal of the cervix. When Dr. Denham examined it he felt this fold more distinctly than the tumour, and recognized it to be a fold of membrane from being able to press it back into its place. He now held the uterus firmly, and I ran a vulsellum up on my finger, and seized the tumour, which I then surrounded with the loop of a single wire ecraseur, and removed, along with the fold of mucous

membrane. We now washed out the uterus and mopped it all over with a solution of perchloride of iron.

Fig. 3 shows the position and size of the polypus, with a fold of membrane running down into the cervix. The uterus is shown of the full size, as ascertained by measurement, with its walls thinned by distention.

Fig. 3.



There was no bleeding, and no inflammatory action, pain, or discomfort, followed the operation. For two days there was a rather copious discharge of offensive sero-purulent matter, containing small clots blackened by the perchloride of iron; this gradually ceased, and the uterus, when measured on the 4th of May, was of its normal size.

A careful examination of the tumour after its removal showed it to be a simple fibrous polypus of the submucous variety.

So far as regards the polypus the case may be regarded as terminating here, but it would not be complete without the further history of the patient, which is far from being satisfactory. Though all the symptoms arising directly from the polypus itself, as well as those due to its peculiar situation, disappeared when the tumour was removed, chronic inflammation of the lining membrane of the cavity of the uterus, which had been set up by the long-continued contact of the putrid fluid, remained. This extended to the substance of the uterus itself, and gave rise to a considerable amount of hypertrophy and induration, so great as to impress both Dr. Denham and myself most unfavourably as to its nature, and though both the induration and hypertrophy have considerably lessened under the influence of treatment, and the general health is good, we are not yet satisfied that it is not gradually degenerating into malignant disease. There is one remarkable circumstance that we have observed in the after-treatment of the case, that I may pause to mention, though it does not belong to the present subject. On three occasions applications were made to the interior of the uterus; on the first of these it was strong nitric acid, and afterwards the solution of perchloride of iron, and immediately after each application, almost before the speculum could be withdrawn, she fell asleep, and remained so till spoken to, though she had been chatting the moment before. The first time this occurred both Dr. Denham and I were present, and neither of us had ever seen it occur before.

Case III.—*Menorrhagia for Four Years, followed by an Attack of Excessive Flooding, and afterwards increased Menorrhagia—Fibrous Polypus in the Fundus of an Ante-flexed Uterus—Portion of Tumour Removed by the Ecraseur—Disappearance of the Remainder.*

Mrs. C., wife of a Naval Surgeon, first consulted me in October, 1867, and subsequently in May, 1868. She stated she was twenty-nine years of age, and had been married seven years, but had no family. Menstruation, till about four years before she came to me,

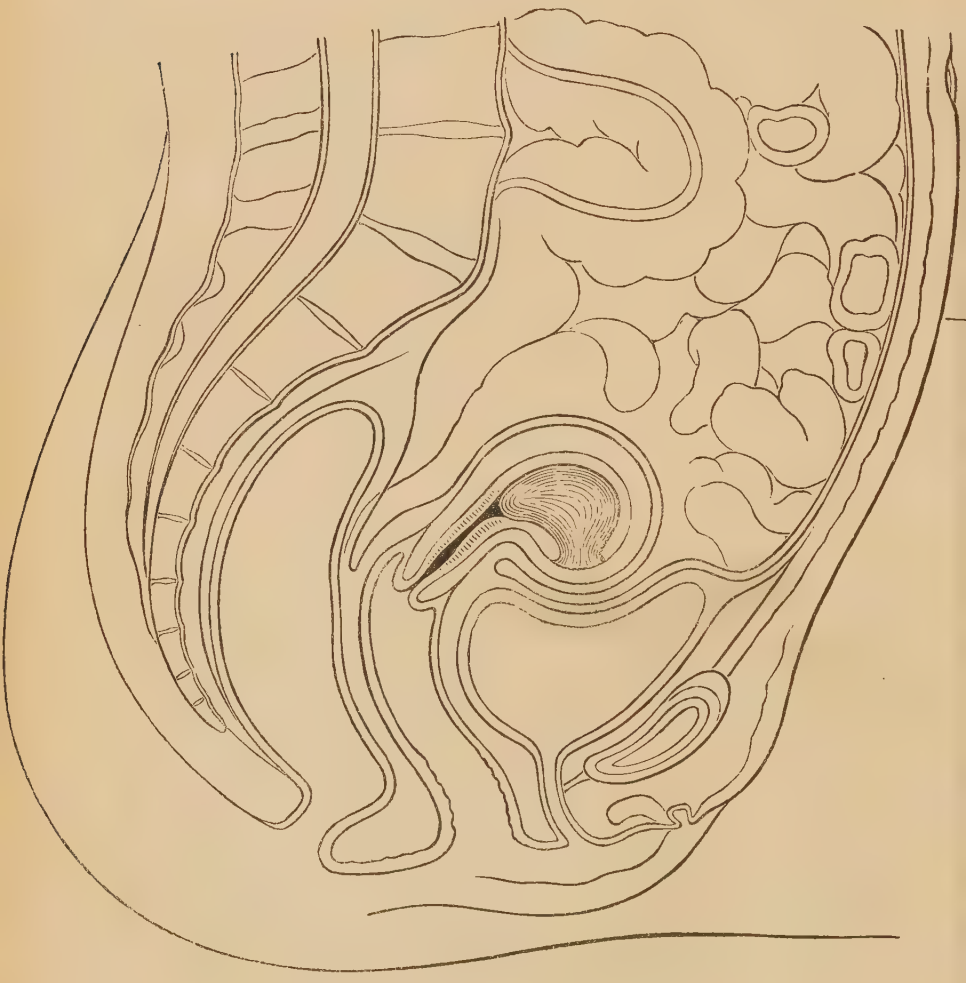
had been healthy in quantity, but painful. About three months after marriage she thought herself pregnant. The abdomen enlarged, but she did not cease to menstruate, and the enlargement proved to be caused by a phantom tumour, which disappeared at the end of nine months. After this she had good health for two years, but the menses then became too abundant. In March, 1867, she was startled, when menstruation was due, and flooding soon afterwards occurred, to a very alarming extent, causing very prolonged fainting at the time, and subsequently much debility and prostration. After this the menstrual discharge became very much more profuse than it had hitherto been, and she was seldom a fortnight at a time free from it. During the six weeks prior to the 1st February, 1868, there was only one week that it was not present.

When I first saw this patient I found the fundus of the uterus enlarged, and bent forwards on itself. The uterine cavity measured more than three inches in length. The os was exceedingly small, but otherwise healthy. The hemorrhage, enlarged fundus, and lengthened cavity, led me to express an opinion that there was probably a polypus at the fundus, and to recommend an exploration. The lady was, however, obliged to leave Dublin before this could be done, but she returned for the purpose in the following May, when Dr. Ringland was kind enough to lend me his valuable aid in the operation.

On the 13th May we proceeded to introduce the sea-tangle; the os was so small that we could only get in one piece of No. 4 size. We left this in the uterus till the following day, when we removed it, and introduced five pieces of a No. 5 bougie. Next day we were able to introduce a finger up to the fundus, having first drawn down the uterus, as already described. We found a fibrous polypus occupying the flexed portion of the uterus, as shown in the drawing (Fig. 4). This was seized with a fine vulsellum, and drawn as well into reach as possible, and the loop of the single wire ecraseur passed around it, but only a small portion could be encircled, owing to the peculiar situation in which it grew. We removed in this way about a quarter of the growth, after which we mopped out the uterus with the solution of the perchloride of iron. The recovery from this operation was very rapid and satisfactory. The next menstruation took place early in June, and the following one at the end of the month, both of which were quite natural and healthy. But the uterus remained ante-flexed, and we still thought the fundus somewhat enlarged; and as the lady was likely to be

obliged to travel about a great deal, we thought it advisable to make a second exploration before allowing her to pass from under our observation. This we proceeded to do on the 8th July, when we had the benefit of Dr. Beatty's assistance and co-operation.

Fig. 4.



The os had now become as small as ever, and we had again to introduce a single tent, as in the first instance, but at the end of six hours we took it out and got in the bundle as before. After

twenty-four hours these were removed, when both Dr. Beatty and Dr. Ringland, as well as myself, explored the whole uterine cavity minutely, and were convinced there was no trace of the polypus that had before existed in the anteverted fundus. The recovery after this operation was protracted by the occurrence of an attack of enteric fever, but was complete, and on the 4th September menstruation again took place in a natural and healthy manner.

This case presents several features of great interest; first, the ante-flexion of the fundus, a condition that is, in my experience, exceedingly rare, though stated by Klob to be more frequent than retroflexion, which is in this country very common; second, the complete disappearance of the tumour after the removal of a small portion. It has long been known that the peduncle of a fibrous polypus will disappear after the removal of the body of the tumour, but in this case the removal of less than a fourth part caused the total disappearance of the whole; third, the return of the os to its original pin-hole size and shape after the first operation affords a valuable lesson as to the instability of the dilatation that can be procured by dilating tents in cases of dysmenorrhea.

FIBROUS POLYPI—EXTRA-UTERINE.

In the foregoing cases the polypi lay within the cavity of the uterus; in the following one the tumour grew from the anterior lip of the uterus and lay in the vagina. The polypi met with in this situation belong to the class of fibroids; they grow most frequently from the anterior lip, and may either be pedunculated or sessile. They are generally easily recognized and easily removed, and it is not easy, with our present knowledge and means of examination, to understand the difficulty that was even recently experienced in their diagnosis. Sir James Simpson[a] quotes Gooch as saying "he has seen the most experienced practitioners in London puzzled to tell what was the nature of the tumour in the vagina, and what ought to be done for it;" and he refers to Lefaucheux as describing the appearances, on dissection, of a case of this form of polypus, which during life could not be discriminated from complete inversion of the uterus. The use of the uterine sound has now, however, enabled us to overcome the difficulties which obscured Lefaucheux's case. Marion Sims[b] has described a case the

[a] Obstetric Memoirs, Vol. i., p. 120.
[b] Clinical Notes on Uterine Surgery, p. 73.

diagnosis of which was attended with great difficulty from the polypus being of a mushroom shape, and covering the os and cervix so completely that when the finger was passed into the vagina a knobby hard growth was found occupying the place of the cervix, and the os could not be felt. The woman was forty-eight years of age, and from prolonged hemorrhage presented almost the complete physiognomy of carcinoma. When the ordinary speculum was introduced the tumour filled up its area, so that its true nature could not be ascertained; and the fears that had been entertained as to its being a case of carcinoma seemed to be confirmed. The true nature of the case was at once discovered when the parts were brought fully into view by means of Sims' duckbill speculum, and the removal of the tumour exhibited an os tincæ perfectly free from all appearances of malignant disease. In the following case an error of another description occurred, and not unnaturally, but was at once cleared up by a careful digital examination.

Case IV.—*Large Fibrous Polypus growing from the Anterior Lip of the Uterus, discovered immediately after the Expulsion of a Four Months' Fetus, and Mistaken for the Head of another Child—Frequent Miscarriages—Removal of the Tumour by the Ecraseur two Months after Delivery.*

In February, 1863, I was sent for to see Mrs. D., an out-patient of the Coombe Lying-in Hospital, who was stated to be sinking from hemorrhage after a miscarriage. I found her in a state of semi-collapse, with frequent partial convulsions of a hysterical character. The students in charge of the case showed me a fetus of about four months that had been expelled, and stated that there was another partially in the vagina, but the placenta had not come away, and there was still considerable hemorrhage. On examination I found a tumour in the vagina, hard, round, and movable, of about the size of the head of a four months' fetus, and on passing my finger round this tumour I found a slightly narrowed process that had been mistaken for the neck of the supposed child, but which was inserted into the anterior lip of the uterus and was continuous with it, showing the true nature of the case. The funis lay behind this tumour. By traction on this and pressure on the fundus, the placenta was extracted, when the hemorrhage ceased. The woman made a good recovery.

Two months afterwards this woman applied at the hospital to be relieved of the tumour, when she stated that she had had three

full-grown living children, and afterwards six miscarriages in succession, at the third or fourth month, but had never had any unusual hemorrhage or derangement of menstruation, and did not know of the existence of the tumour till told of it at the time of the miscarriage. On the 17th April, 1863, I proceeded to remove the tumour, assisted by Drs. Ringland and Sawyer, and in presence of Drs. Churchill, Jameson, Johns, and the class. The woman being placed in the semi-prone position, and the duckbill speculum introduced, I seized the tumour with a vulsellum, and, giving the instrument to Dr. Sawyer, got him to make slight traction. I then passed the chain of an ecraseur over the vulsellum and tumour, and carrying the point of the ecraseur well up above the tumour, removed the entire mass. No hemorrhage followed the operation, but on the third day, considerably before its time, menstruation set in, but was not excessive. About twelve months after the operation this woman was delivered in the hospital of a healthy full-grown child.

SOFT OR MUCOUS POLYPI.

The soft polypus, or that composed of mucous membrane enclosing cellular or connective tissue, generally springs from the fundus of the uterus; it may, however, have its origin in the cervix, where it is formed by hypertrophy of the folds of mucous membrane constituting the *arbor vitæ*. In either case, but especially when springing from the cervix, the glandulæ of the mucous membrane may become distended with their own secretions in consequence of their mouths being obstructed, and then the polypus assumes more or less of a cystic formation. When growing from the fundus the soft polypus is generally single, but not always. I have in my collection a uterus containing two soft polypi attached to the fundus. When growing from the mucous membrane of the cervix they are, as a rule, numerous, and spring from different points, as figured by Madame Boivin and others. They are generally pedunculated, or become so in the process of growth, the peduncle being formed by an elongation of the mucous membrane. When long enough they pass down so low as to appear at the os externum, and have even protruded through the vulva. When they come within reach in this manner they may be removed with great ease and safety by torsion, by seizing them, as close to their origin as possible, with a fenestrated or broad-pointed forceps, and twisting them slowly till they are torn away.

They have sometimes, however, a broad basis of attachment in

the fundus, and do not pass out of the cavity, when the uterus must be dilated and the tumour removed by the ecraseur.

CASE V.—*Menorrhagia for Eight Months, followed by Continuous Uterine Hemorrhage, Metrorrhagia, which lasted Seven Months; Soft Polypus at the Fundus of the Uterus—Removal by Ecraseur.*

Mrs. E., aged twenty-nine, married, and has several children; admitted into the ward for the diseases of women in the Coombe Lying-in Hospital, on the 12th May, 1868. This woman's last child was born on the 12th July, 1866, soon after which she accepted a situation as a wet-nurse, and held it till 24th June, 1867. The first menstruation after the birth of her child occurred in February, 1867, and the second in April; after this she menstruated every month regularly as to time, but the discharge was very profuse. In December, 1867, she menstruated twice, and soon afterwards bleeding became constant, and continued so till the polypus was removed. In May she consulted Dr. Mason, who advised her to come into the Coombe Hospital and place herself under my care.

On examination the uterine cavity was found to measure three inches, only half an inch more than it ought to do. By the bi-manual method of Sims the fundus was found enlarged and thickened, but to so slight a degree that it was thought exceedingly improbable there was any polypus; and it was determined to try to check the bleeding without exploring the cavity. She was kept under treatment for two months with this view; but, though local applications, would check the bleeding it always returned after a short time, and therefore it was agreed, on consultation with my colleagues, Drs. Ringland and Sawyer, to explore the uterus. On the 3rd July seven pieces of a No. 5 sea-tangle bougie were introduced, and on removing them next day a finger was passed into the uterus, and a soft polypus discovered at the fundus, to the left side. It was not larger than a French bean, but had a broad basis, and we thought it better to remove it with the ecraseur than attempt to do so by torsion. The operation was performed in the method already described, and is shown in Fig. 2, p. 16, which also shows the position of the polypus. The drawing is half the actual size.

After the removal of the tumour the uterus was mopped out with the saturated solution of perchloride of iron in glycerine, and the patient put to bed. On the eighth day after the operation she was able to be up, and on the twenty-second she left the hospital

perfectly recovered. She reported herself after each menstruation for the next three months. There was no further bleeding, her menstruation was natural and healthy. Her general health was good when she was last seen, and she was rapidly regaining her strength, which had been greatly reduced by the long-continued hemorrhage.

In the following case the tumour was removed by torsion:—

Case VI.—*Large Soft or Mucous Polypus, Springing from the Fundus Uteri, and extending through the Os Externum, Causing Profuse Hemorrhage—Removal by Torsion.*

On the 31st January, 1864, I was sent for late at night to see Mrs. F., an American lady, who had recently come to live near Dublin.

She was forty-five years of age; had had one child eighteen or twenty years ago, but had not since been pregnant. For some years past the menstrual flow had been much more abundant than formerly, and for the last six months there had been almost continuous hemorrhage, and consequently great debility. A short time before I arrived at the house she had a prolonged fainting fit in consequence of a sudden increase of the bleeding, after making a slight exertion. On examination I found a soft polypus hanging out of the os externum; but as she lived at a distance from town, and no arrangements had been made for an operation, I plugged the vagina for the night to prevent further hemorrhage, and arranged to remove the polypus next morning. Next day the polypus was still protruding through the os, and hanging down nearly an inch in length into the vagina. The os was patulous, and the polypus could be traced by means of the sound up to the fundus of the uterus. I seized it with a fenestrated polypus forceps as near its origin as possible, and twisted it off with great ease. No blood was lost during the operation, nor after it. The lady gradually regained her strength, and has had no return of the hemorrhage since.

POLYPI REMOVED BY PRESSURE.

We are indebted to Marion Sims for drawing attention to the power of sponge tents in obliterating some polypi. In one case described by him, where the sponge had by accident been left in the uterus for a week, a fibrous polypus, the size of a pigeon's egg, disappeared; but this prolonged use of the sponge is attended with too much danger to be adopted as a mode of treatment. The

soft polypus is very easily removed in this way, but, as already said, its removal by torsion or the ecrasure is to be preferred when it can be caught. It is, however, to be borne in mind that this polypus very constantly disappears under pressure, for otherwise disappointment, and not a little vexation, may occur.

CASE VII.—*Profuse Menorrhagia passing into Metrorrhagia—Mania—Soft Polypus Growing from the Fundus of the Uterus, and Removed by the pressure of Sponge Tents.*

Mrs. G., a lady approaching the climax of life, was placed under my care on the 29th April, 1867, by Dr. Cummins, of Cork, suffering from menorrhagia and well-marked mania, which he believed to be due to some uterine or ovarian irritation, but in her then state of mind she would not allow him to make a vaginal examination. This lady had suffered from puerperal mania in 1864, having had internal hemorrhage after her labour, but she perfectly recovered from this after four or five weeks' treatment.

In September of the following year, 1865, when the catamenia had for some time been returning too frequently, she again became maniacal, but recovered under the use of bromide of potassium.

In October of the following year, however, the catamenia again became too frequent, and also very profuse, and her mind once more gave way. This attack did not yield to treatment as the previous one had, and when I saw her in 1867 the bleeding from the uterus was almost continuous. I found the os patulous, the cervix enlarged and abraded, and the cavity an inch and half longer than it should be, with the fundus, as felt above the pubes, enlarged. I introduced a sponge tent, and on removing it the following day distinctly felt a soft polypus growing from the fundus. A larger sponge was now introduced, and arrangements made for removing the polypus next day; but when I came to do so the polypus was completely gone, no trace of it could be found, so I mopped out the cavity of the uterus with the solution of perchloride of iron, and directed the patient to keep in bed for a few days. The hemorrhage completely ceased—the mind quickly recovered—the abrasion at the os yielded to a few applications of nitrate of silver; and the patient has remained in good health ever since.

The connexion of the symptoms in this case is very evident. A patient pre-disposed to insanity gets severe flooding after labour, and in the weakened condition thus induced the insanity becomes developed, but disappears under appropriate treatment to reappear

when the system is again depressed by hemorrhage, and cease when the hemorrhage is stopped.

In the following case there can be no doubt as to a polypus having been present, though it was never actually seen or felt.

Case VIII.—*Uterine Hemorrhage for Nine Months—Soft Polypus Removed by Pressure of Sea-Tangle Tents.*

Mrs. H., aged twenty-six, a theatrical dancer by profession, consulted Dr. Rogers for hemorrhagia, and was advised by him to apply to be admitted into the Coombe Hospital under my care. She stated that she began to menstruate at twelve years of age, but had always been very irregular, four months sometimes passing without any appearance; that she had been a widow for the last five years, and had two children, the youngest seven years old; and that for the last nine months she had had a constant bloody discharge from the vagina, sometimes very profuse after much exertion, and never stopping for more than a day at a time, though she had been under the care of some of our most skilful physicians.

On examination the uterus was found enlarged, the cavity measuring three quarters of an inch more than it should; the os and cervix healthy. On consultation with Dr. Sawyer it was determined to explore the uterus, and on the 11th December the sea-tangle tents were introduced. Next day these were removed, and the uterus carefully explored, but no polypus or tumour of any kind could be found. The uterus was mopped out with the solution of perchloride of iron, and the patient returned to bed. After this there was no return of hemorrhage, and the uterus was exactly its normal length and size when measured on the 26th December.

CYSTIC OR GLANDULAR POLYPI.

The cystic or glandular polypus also grows from the mucous membrane, or rather from the glandulæ imbedded in it. Of this polypus there are two varieties, one is formed by enlargement of the glandulæ Nabothi, and is composed of cysts varying in size from that of a hazel nut down. Polypi of this description are sessile, and in general several lie together in a group, and they are most frequently found close to the os internum. Their contents consist of clear mucus, and their walls are thin and easily ruptured, and when ruptured collapse. Rokitansky believes them to be absolutely new formations, but whether this is the case, or they

are formed by the distension of the normal mucous follicles of the part, they do not seem to fill up again once they have been ruptured. They frequently occur along with some of the other forms of polypus. In a uterus in my possession, a group of three lies in the cervix close to the os internum, while two rather large soft mucous polypi spring from the fundus; and there are two fibrous tumours in the same uterus, one intramural, and the other, a tolerably large one, sub-peritoneal.

This polypus does not cause any enlargement of the body of the uterus or any elongation of its cavity as measured by the sound. It may cause, or co-exist with, cervical leucorrhea, but in general its only symptom is hemorrhage, and it should always be sought for by dilating and exploring the cervical canal when uncontrollable hemorrhage cannot be otherwise accounted for.

Case IX.—*Cystic Polypus of the Cervix in a Girl aged* 14-15—*Menorrhagia from commencement of Menstruation—Metrorrhagia Eleven Months—Removal of Polypus by the Action of Sponge Tents.*

This case is of great interest from the early age at which it occurred, and from showing that it may sometimes be absolutely necessary to dilate and explore the uterus even in young girls barely entering on puberty. Fortunately such cases are very rare, but those who saw this one had no doubt as to the imperative necessity of so doing.

J. K. was admitted into the ward for diseases of women in the Coombe Lying-in Hospital on the 2nd of April, 1866. She was in an extremely blanched and anemiated condition from uterine hemorrhage. Her mother stated that she was between 14 and 15 years of age; that she had commenced to menstruate when little more than 13 years old; that the discharge had from the beginning been very copious, and for the last eleven months had been almost constant, except for a short time when she had been under treatment in an hospital, and for a fortnight after her return home.

Every time this girl passed water a large quantity of blood escaped from the vagina, where it had been slowly accumulating during the interval. Her feet were œdematous, her breathing was short and panting, her face, gums, and lips were colourless, her pulse small, quick, and weak, and she was quite incapable of exertion. We learned from her mother that astringents and styptics had been tried in every form, even applied to the os uteri, and on consultation with my colleagues, Drs. Ringland and Sawyer,

and with Dr. Beatty, who kindly saw her with us, it was determined to at once explore the interior of the uterus, though we could not detect any enlargement or external sign of disease. The girl's condition was too full of immediate danger to allow us to spend time in trying less decisive measures to check the hemorrhage, even if we did not feel quite sure that everything of this kind that could be done had already been tried in the hospital in which she had been.

We accordingly introduced a sponge tent to dilate the os. Next day we discovered two glandular polypi in the canal of the cervix, close up to the os internum. Dr. Ringland and I both felt these distinctly, and satisfied ourselves as to their position, attachments, and nature; but as the os internum was not well dilated, and as Dr. Sawyer was not able to be with us, we introduced a larger sponge with the view of exploring the whole cavity of the uterus and removing the polypi next day, if not already broken down by the sponge. Next day the finger passed well up to the fundus of the uterus. The polypi that we had found in the canal of the cervix were completely broken up and gone, and we could find no others, so we washed out the uterus and mopped over the whole of the inner surface with a saturated solution of perchloride of iron in glycerine.

There was no return of the hemorrhage after this. The girl made a good recovery. We kept her in the hospital for some time that a menstrual period might pass over, but there was no return of menstruation, and she went home to Howth on the 24th May much improved in strength and appearance.

For eight months after she left the hospital there was no return of menstruation or hemorrhage whatever. She then began to menstruate regularly and in natural quantities, and now, at the expiration of three years from the operation, she is robust, healthy, and active.

Case X.—*Cystic Polypus, Patient aged* 21—*Metrorrhagia from the Commencement of Menstruation, and lasting Three Years.*

In the case of a young lady that Dr. Denham asked me to see along with him on the 12th January, 1869, a very similar train of symptoms to the foregoing presented themselves. She began to menstruate at seventeen, and since then the discharge had never ceased, though more than three years had elapsed, and all the means of constitutional treatment usually adopted for checking

uterine hemorrhage had been tried. On examination we found the uterus of the normal length, but the os was patulous, and the upper portion of the cervix enlarged, with a bulging outwards at one point, posteriorly. These conditions led us to believe there was a cystic polypus in the canal of the cervix, but on further examination we found three sub-peritoneal fibroid tumours growing from the posterior wall of the uterus and hanging down into Douglas' space, which complicated the case. However, as tumours in this situation do not generally cause hemorrhage, we determined on exploring the uterus, and introduced sea-tangle tents for the purpose. On removing these and passing in a finger, we did not find any polypus or tumour, but near the os internum, corresponding to where the bulging had been on the posterior wall of the cervix, we found a well-marked depression, into which the top of the finger would fit, and which it seemed probable was the seat of a cyst that had been ruptured by the sea-tangle. We brushed over the whole of the inner surface with a solution of the perchloride of iron. If, as I fully expect, the hemorrhage do not return, we may, I think, regard this case as one of cystic polypus, but sufficient time has not yet elapsed to justify any positive conclusion.

22nd January.—When these pages were going through the press, Dr. Denham reports to me that he examined this patient this day; that there has been no return of hemorrhage; that the os is closed, the cervix reduced in size, and the uterus is in a healthy condition.

The second form of cystic polypus is pedunculated; it is of about the size of a split pea, and hangs down from some part of the cervix by a long fine peduncle and generally lies just within the lips of the os. Sometimes it is attached by a fine peduncle nearly an inch long, but more frequently the peduncle is very short. According to my experience this is the most frequent form of polypus, and not unfrequently several of them are found together with peduncles of various lengths.

The uterus does not become enlarged with this form of cystic polypus any more than with the sessile, but there is always a constant hemorrhage, never very copious, but often productive of great debility from its long continuance. On examination the os is found patulous, with a rope of clear tenacious mucus hanging out of it, and there is generally superficial ulceration. When the speculum is introduced the polypus is brought into view on

separating the lips of the os or wiping away the mucus; and it should always be carefully sought for in cases of uterine hemorrhage before proceeding to open up and explore the cavity of the uterus, especially if there be no enlargement of the body or elongation of the cavity. In some cases the polypus is concealed from view by the stream of mucus from the cervix; but on touching this mucus with the solid nitrate of silver it becomes opaque and condensed, and shrinks so as to allow the polypus to come into view. This expedient should always be adopted before giving up the search in suspected cases. The polypus is easily removed by torsion, and after it is taken away it is well to touch the point from which it grew with nitric acid so as to seal up the vessels and at the same time cause the mucous membrane to contract and tighten itself up, and thereby prevent a relapse.

ART. III.—*On Retroflexion of the Uterus.*[a] By LOMBE ATTHILL, M.D., Dub. Univ.; Fellow and Censor King and Queen's College of Physicians; Ex-Assistant Physician, Rotundo Lying-in Hospital, &c., &c.

OF all the affections to which the uterus is liable, none is of more importance than retroflexion,[b] not only on account of its comparative frequency, but also because of the sufferings to which it gives rise, and the distressing train of symptoms which often follows its occurrence. We meet with it, too, at nearly every period of life, from puberty onwards. It is, however, rare in youth or in advanced age, the great majority of cases occurring during the period of life in which the uterine system is in the state of its greatest activity—namely, between the age of twenty and forty. It is, besides, an affection, the existence of which is more frequently overlooked than any other form of uterine disease, this being due rather to the fact, that the symptoms to which it gives rise have often but little apparent reference to the uterus, than to any difficulty in detecting it when once our suspicions are aroused.

[a] Read at the Dublin Obstetrical Society, December 12, 1868.

[b] By many writers the terms Retroversion and Retroflexion are used as synonymous. The condition to which I wish in this communication to direct attention is more accurately described as retroflexion, and that term I shall alone employ. Retroversion strictly understood as signifying a turning back of the entire uterus, is applicable rather to the change of position to which the gravid womb is liable when the fundus lies in the sacral hollow, and the os is forced up behind the pubis. By retroflexion, on the other hand, I understand a bending back of the fundus alone, the os remaining very nearly in its natural position.

When we consider the position of the uterus sunk low in the pelvis, with the bladder, an organ capable of such immense distension, placed in its immediate front, and constantly exercising a pressure backwards, and when we remember that many women, from mere habit or from motives of delicacy, oftentimes pass many hours without emptying that viscus, we can readily understand the frequency of this displacement as compared with any other to which the uterus is liable. But though the distended bladder may thus be the agent in directing the uterus backward, it is but a secondary cause, for the uterus itself must be in an abnormal condition, otherwise it would regain its proper position, whenever the bladder became flaccid. Retroflexion is, however, in my opinion, the result of causes, slowly producing their effect, all which causes may be grouped under one head—namely, those affections which increase the bulk and weight of the uterus, and more especially of its fundus. It is not, however, necessary that the increase should be confined to the fundus, though if that be the case the danger of retroflexion occurring is much increased, for if the bulk of the entire uterus be augmented, this will still most likely take place, because not only is there a force acting from before, directing the fundus downwards and backwards, but also because there is no resistance from behind to counteract that tendency. Now, the causes producing the condition likely to result in retroflexion may be reduced to three classes—namely,

1st. Chronic inflammation of the uterus, and its result; hypertrophy of that organ.

2nd. Subinvolution of the uterus after labour or abortion.

3rd. Tumours of the uterus. But as this last involves the consideration of special diseases, I shall not for the present allude further to it, but in this paper confine myself strictly to the two former.

I believe chronic inflammation[a] of the uterus to be a common cause of retroflexion, and one frequently overlooked. It is met with in two very different classes of females—namely, those who lead a very active life; and again, in those of weakly constitution and sedentary habits, such as needlewomen and teachers. Thus young women of active habits, who from necessity or for pleasure walk, ride, or garden much, or who follow employments or amusements

[a] I have used the term "chronic inflammation" because it is frequently applied to the condition of the uterus I am alluding to. It is, however, far from being a correct one. "Active congestion" would be a more appropriate one.

necessitating much standing, will sometimes continue to pursue these duties or amusements during the catamenial period, forgetful or ignorant that the uterus is in a state of active congestion. The result is that the organ remains congested for an undue length of time, or it may be that the discharge may, from some accidental circumstance, be entirely suppressed, with the like result; in either case, the seeds of chronic inflammation are sown. The first symptoms are generally neglected; the disease creeps on insiduously, till at length the uterus, having become hypertrophied, is gradually bent on itself, and retroflexion is the result; then her sufferings compel the patient to seek relief. The following case illustrates this form of the disease:—

Case I.—In November, 1847, I was consulted by a very healthy-looking young woman, aged about twenty-five. She was unmarried. She stated that she had always lived a very active life, and till within a comparatively recent period, had enjoyed most excellent health. That about three years ago having been compelled, in consequence of the illness and subsequent death of her father, to undertake the entire superintendence of a large farm, she underwent great fatigue, generally spending from eight to twelve hours each day in the open air, either on foot or on horseback, and never relaxing her exertions, even during the menstrual period. She at first suffered from a sense of fulness and weight in the lower part of the abdomen; but to these symptoms she paid no attention. At about the end of a year she for the first time perceived a new train of symptoms. She now experienced difficulty in passing water, and was obliged to strain in doing so. She also suffered occasionally much distressing tenesmus. After a little time her sufferings were further increased by a difficulty experienced in defecation. The bowels were not actually constipated, but their action caused great pain, and the feces, when passed, were as small as those of a little child. The catamenia appeared regularly, but in considerably diminished quantities. At length she sought the advice of a physician, who, having endeavoured without success to relieve her by treatment directed to the bladder and bowels, recommended her to consult me. I felt in this case, as I always do when the patient is unmarried, great reluctance to make a vaginal examination; but her sufferings were so great, and as treatment directed to other organs had failed to afford relief, I deemed it absolutely necessary to ascertain the condition of the uterus;

and on examining her discovered that organ to be much enlarged, tender to the touch, and completely retroflected, its fundus occupying the hollow of the sacrum, and, pressing against the rectum, this explained one of her symptoms—namely, the difficulty experienced in defecation, the irritation of the bladder being evidently reflex. With the view of retaining the uterus in its normal position I introduced a Hodge's pessary. The fundus was raised without difficulty, but the pessary first used proved to be too large, and caused so much pain, that after the lapse of a few hours it had to be removed. On a subsequent day, however, I introduced a smaller one. This answered admirably, and she experienced such relief that she was able to return home, and has since followed her ordinary occupations. In this case the uterus was in a state of chronic inflammation, and to this condition her greatest sufferings were due. In the following case, however, no inflammation was present. The uterus was simply hypertrophied, and a very different train of symptoms manifested themselves.

Case II.—A. M., aged twenty-one, a schoolmistress, had suffered for more than a year from occasional attacks of vomiting, which for the last three months had become incessant. She had been treated in various ways for the relief of this distressing affection, but without benefit, and at the time I saw her in consultation with my friend Dr. Little it had become so aggravated that for weeks previous everything swallowed had been rejected. She had even vomited lime water and milk, and this, though only one spoonful had been given at a time, and at regular intervals, no other food of any kind being allowed. In like manner she had been fed on beef-tea exclusively, a spoonful only being given at intervals of fifteen minutes. The food thus taken would be retained for a time, till some ounces had been swallowed, then the whole would be rejected. Nevertheless she had not become actually emaciated, and she only complained of debility, and pain in the pit of the stomach and in the back. The catamenia appeared at regular intervals, but in much smaller quantities than formerly. On examining the abdomen tenderness on pressure was detected over the left ovary, and to that spot four leeches were applied. The effect was marked. That afternoon the stomach retained some beef-tea, that being the first food retained for several weeks. The vomiting, however, did not entirely cease, it still occurred once or twice a day, nearly always in the morning. Being

now satisfied that the vomiting depended on some reflex irritation, we decided on making a vaginal examination, and I was, I confess, somewhat surprised to find the uterus completely retroflected. The fundus was enlarged, but little tender to the touch, and occupying the hollow of the sacrum. It was easily raised to its normal position, and to retain it there I introduced a Hodge's pessary of small size. This was from the very first borne without inconvenience, and from the time it was introduced the vomiting entirely ceased. The catamenia subsequently appeared in much larger quantities, and the general condition rapidly improved. On the 15th of March last I removed the pessary, it having been worn for three months. Since then there has been no return of her distressing symptoms, and I understand that she is now married.

In the next case which I have now to relate, while the sufferings were even greater, the symptoms, save in one point, which I shall have to refer to hereafter, were in no way similar to either of the preceding cases:—

Case III.—In 1867 I was consulted by a lady from the North of Ireland. Her case was a very distressing one. She was twenty-eight years of age, and had been married for eight years. Not long after marriage, and when in the fourth month of pregnancy, she fell down stairs, and was much hurt. She suffered, as the result of this accident, from severe pain in her side and back. Was treated for inflammation, leeched and salivated; and at the end of a fortnight aborted. For a year following she continued in a miserable state, the pain in her back and in the region of the uterus being so severe that she was seldom able to leave her bed. The catamenia were scanty and irregular. She was at length induced to go to Edinburgh, and placed herself under the care of Sir J. Simpson. He incised the cervix uteri, and introduced a stem pessary. The use of this brought on severe inflammation, and the instrument had to be removed. From this attack she recovered, and returned home feeling somewhat better, but soon relapsed into a condition even worse than before. She now experienced a distressing feeling of weight in the neighbourhood of the rectum, which was greatly increased, and accompanied by severe pains, at each menstrual period. She at length became a confirmed invalid. Walking caused such suffering that she dared not attempt even to cross the room. Life was, in fact, a burthen, and the medical man who

referred her to me told me candidly that he looked on her case as hopeless. On making a vaginal examination I found the uterus to be very low, the entire organ to be hypertrophied, and the fundus pressing back and occupying the hollow of the sacrum. The os was gaping, and freely admitted the tip of the finger, the incision made by Sir J. Simpson never having united; a copious discharge of semi-purulent mucous exuded from it. I leeched the cervix on three occasions, and after a time introduced a Hodge's pessary, which she bore without inconvenience. Her condition now, after the lapse of ten months, is satisfactory. The following is an extract from the last letter I received:—"I am happy to say Mrs. —— is steadily improving. Her last illness (*i.e.*, catamenial) was like the former, very satisfactory. For the first two days there was not much discharge, but during the next three it was very good, and it extended to the sixth day. She suffers very little pain." It should be borne in mind that formerly the catamenia never lasted for more than a few hours. In this patient we had a long-continued inflammation of the uterus, terminating in hypertrophy and retroflexion, and I wish to direct special attention to the fact that in this case, too, one of the most prominent symptoms was the great diminution in the catamenial discharge.

I must now briefly refer to the class of cases comprised in the second group—namely, those depending on subinvolution of the uterus.

Hypertrophy of the uterus, or, as it is termed, "subinvolution" of the uterus, occurring after abortion or labour, is a common, and by some considered the most common, cause of retroflexion. This form has, in all the cases I have met with, given rise to very grave symptoms, for not only are the ordinary symptoms of "pain," "dragging," &c., complained of, but it is frequently accompanied by menorrhagia, which is often very severe; indeed, it is for the relief of this we are most commonly consulted. I recently had under my care, jointly with Dr. Churchill, a well-marked case of this form.

Case IV.—This patient was confined of her fourth child in September, 1866. Considerable hemorrhage followed the separation of the placenta, and for more than a week subsequently the discharge was excessive. She recovered slowly. At the expiration of three months the catamenia appeared profusely, and

returned every three weeks, the discharge on each occasion being so excessive as to reduce the patient greatly. On examining her I found the uterus to be retroflected, and greatly enlarged; in fact, it had never regained its normal condition since delivery. In this case it was necessary to plug the vagina regularly at each menstrual period, so great was the hemorrhage. I am not able to state what was the termination of the case, as it passed out of my hands. The treatment adopted was the introduction of a Hodge's pessary, rest, and restraining the excessive menorrhagia by plugging. It was, however, of unusual severity. The following is one of a more ordinary type:—

Case V.—Mrs. J. consulted me in May, 1867, for menorrhagia. She complained of nothing except the debility consequent on the excessive drain. She stated that she had been confined five months previously of a still-born child; that her labour had been very tedious and difficult, and that it had been found necessary to have recourse to turning, that considerable hemorrhage followed delivery, and that her convalescence had been slow. Subsequently she had been sent to the sea-side, and treated by the administration of tonics, but the menorrhagia continued. On making an examination I found the uterus to be completely retroflected, and much enlarged; it was, in fact, a case of subinvolution of the uterus, and subsequent retroflexion. Treatment directed to the uterus proved efficacious. She recovered rapidly, and has since given birth to a living child.

The following case illustrates very well the great vagueness of the symptoms which sometimes accompany this affection:—

Case VI.—Mrs. B., a married lady, and the mother of several children, came under my care during the course of last summer. She had been suffering for nearly two years from severe paroxysms of pain, referred to the pit of the stomach, which came on at irregular intervals. She experienced these attacks for the first time shortly after her last confinement. Since then they had gradually increased in severity, till finally they returned almost daily, and the paroxysms had become so intense as to compel her to go to bed, where she remained for hours in the greatest agony. These attacks were frequently accompanied by severe retching, while occasionally the pain shot down the inside of the thigh. The bowels were obstinately constipated, and much straining was always

necessary in order to evacuate them. The catamenia were very irregular, coming on very profusely for a day or two, then suddenly stopping to reappear again, and so continued appearing and disappearing for some ten or twelve days. This lady had been under treatment for a very long period prior to my seeing her, but without being benefited; and at one time, when the vomiting had become very distressing, she had been fed for a week per rectum, with, of course, temporary relief, but the vomiting returned as soon as ever she commenced swallowing food. On making an examination I found the uterus to be enlarged, the fundus to be retroflected, and the canal of the cervix in a state of granular erosion. To the retroflection was evidently due the difficulty experienced in defecation. Wishing to cure, in the first instance, the granular erosion of the os and cervix uteri, I did not at once introduce a pessary, but though the local affection was greatly benefited by the treatment adopted, the distressing symptoms were but little relieved. A Hodge's pessary was now introduced; from that time she steadily improved, and for the past four months has been perfectly free from the attacks of pain and vomiting she had previously experienced, and this though immediately on her return home she underwent great bodily fatigue and mental distress, her husband having been attacked by fever, which terminated fatally after a short illness, three of her children being also in succession attacked by the same disease.

I shall add the outline of but one other case. It too is interesting as illustrating the vagueness of the symptoms attending this affection:—

Case VII.—I was consulted in July last by a married lady mainly for the purpose of being informed whether she was pregnant or not. She stated that four years ago she had given birth to a living child, and that subsequently she had several times become pregnant, but on each occasion had miscarried at the end of the third month. She supposed that she was now pregnant again, because she suffered from incessant nausea, while at the same time her breasts had become enlarged, painful, and distended with milk, but nevertheless she was in doubt, because the catamenia appeared regularly and in *increased* quantities. I speedily ascertained that she was not pregnant, but that the uterus was retroflected, this, too, being a case of subinvolution, terminating in that displacement. In this case the pessary was at first very badly borne, though

finally one was introduced which answered admirably. In this, as in the three preceding cases, the menstrual discharge was increased in quantity, thus contrasting with the three cases first related.

Hitherto I have only incidentally alluded to the symptoms following retroflexion of the uterus, yet to this point I am most anxious to direct attention, for vague as are those related in the foregoing cases they have some points in common, and these distinct and well marked.

If we refer to any of the works on diseases of women we find the symptoms of retroflexion of the uterus stated to be "a sense of weight" in the pelvis, "pain in the back," or "shooting down the thighs," &c., symptoms which are common to nearly every form of uterine disease, and, therefore, worthless as a diagnostic mark; while, with respect to the menstrual function, no attempt is made to apply to it any definite rule. Thus Sir J. Simpson, in the first volume of his "Obstetric Works," says that he has found the "catamenial discharge to be most oppositely affected, occasionally in the way of menorrhagia, sometimes of dysmenorrhea." Again, Dr. Churchill says, "Menstruation may be profuse or painful, or both." I cannot but think that this apparent contradiction in the description of symptoms is due mainly to the want of careful discrimination between two classes of cases, depending on totally different conditions of the same organ. Doubtless there is not any one symptom on which we can rely as indicating the existence of retroflexion of the uterus, and I do not remember in my own practice a single case in which, prior to my making vaginal examination, I had sufficient grounds for concluding that this displacement existed. Thus in Case I. the most prominent symptoms were irritation of the bladder and constipation; in Case III.; they were pains over the ovary, and total inability to walk; in Case II. regurgitant vomiting alone was complained of. Nevertheless in all these the menstrual function was similarly affected, being in all much diminished in quantity, though not totally suppressed; while, on the other hand, in Cases IV. and V., menorrhagia, alone was the ailment for which the patient sought relief. Again, in Cases VI. and VII. the menstrual discharge was profuse and weakening, though in the one paroxysms of intense pain, and in the other reflex irritations simulating those of pregnancy, were the prominent symptoms. But though the result produced—namely, retroflexion—was in all these cases alike, the causes giving rise to that result were different in the

first set of cases—namely, those in which menstruation was diminished—the retroflexion was the result of chronic inflammation, and slowly produced hypertrophy. In the latter, where menorrhagia existed, it followed on subinvolution. I therefore came to the conclusion that we can assign a different pathological reason for the different conditions of the menstrual functions, and that according as the retroflexion depends on chronic inflammation or on subinvolution, so the catamenial discharge will be diminished or increased in the respective cases.

In conclusion, I would draw the following inferences:—

1st. That retroflexion of the uterus is a common affection, and that it is met with both in married and unmarried females.

2nd. That it is a secondary, not a primary, affection.

3rd. That when it is due to chronic inflammation or congestion of the uterus, terminating in hypertrophy, the catamenia are diminished in quantity, and frequently painful.

4th. But that when retroflexion is the result of subinvolution of the uterus, following labour or abortion, the catamenial discharge is increased in quantity, sometimes even to an alarming degree.

5th. That in addition to the symptoms common to all forms of uterine disease—namely, pain in the back, sense of weight, &c.—we have not unfrequently, where the uterus is retroflected, reflex irritation of the bladder, stomach, and breasts, occurring as to frequency in the order given, and also constipation of the bowels.

I shall add but a few words on the subject of treatment, as in the present paper I desire to call attention mainly to the pathology of this affection. Medicines are of but little value, save so far as the general condition of the patient may call for the exhibition of tonics. The displaced organ must be restored to its proper position, and retained in it. This should always be the first step, unless, as occurs in a comparatively small number of cases, there be so much local inflammation present as to render the application of leeches or other antiphlogistic treatment necessary. The raising the fundus to its normal position is generally effected without difficulty, unless, as occasionally occurs, it has become fixed in consequence of repeated attacks of pelvic inflammation. Under such circumstances treatment is of little use, and, unfortunately, these are the cases in which the sufferings are greatest. To retain the uterus in its proper position the patient must wear a pessary, and, in my opinion, none is equal for that purpose to

Hodge's ring pessary. Care must, of course, be taken to use one of proper size, and adapted to the caliber of the vagina. Too large a one will give pain, too small a one will be useless. Sometimes it is, however, necessary to allow the patient to wear a small one for a few days till the vagina becomes accustomed to its presence, when it should be replaced by a larger one. The pessary once introduced should be worn for a considerable time. Its presence seldom interferes with the use of a speculum, should it be found necessary to have recourse to local treatment. Maintenance of the recumbent, where it can be carried out the prone, posture by some considered alone sufficient for the cure, is in all cases an accessory measure of much importance.

The foregoing paper was written several months ago. Since then the subject of which it treats has been brought prominently forward at the Obstetric Society of London, and an animated discussion followed the reading of the papers. The views then propounded have not in any way influenced me, or caused me to make any change in what I had written. I agree with Dr. Meadows that inflammation, or, at least, active congestion of the uterus precedes, and is a common cause of, this displacement. Of course I do not deny that retroflexion may be congenital, or that exceptions may occur to this general rule. I do not, however, agree with him in his deduction from the foregoing opinion—"That our first care in the treatment of these cases ought to be to remedy that which is not only the cause of the flexion, but, at the same time, is responsible for the greater part of the sufferings, and that till this is accomplished, but not before, we may resort to mechanical treatment." On the contrary, I have proved by experience that when a pessary *can be borne* the support it gives to the uterus will not only greatly aid our local antiphlogistic treatment, but in not a few cases be of itself sufficient; and, therefore, I agree with Dr. Graily Hewitt, "that the flexion is the prominent feature of these cases, and that the restoration of the organ to the proper position is the first indication." I believe that given a healthy uterus, healthy ligaments, and a healthy pelvis, retroflexion is impossible. Dr. Barnes states that in many cases of secondary puerperal hemorrhage he found retroflexion to exist, and in this he confirms the views I have advanced, that menorrhagia is a symptom of retroflexion when it depends on subinvolution. Dr. Priestly stated that within his own experience retroflexion of the unimpregnated uterus had in one case given rise to "uncontrollable

chronic vomiting," a fact I had recorded. It has afforded me much pleasure to find so many of the conclusions I had arrived at, borne out by such eminent practitioners, of whose views I was altogether ignorant at the time I wrote the foregoing paper.

Finally, I would urge the necessity of bearing in mind that cases of retroflexion are occasionally met with which seem to cause neither distress, nor even inconvenience, to the patient, and that such cases should not on any account be interfered with.

ART. IV.—*Modified Splint, for the Treatment of Fracture of Fibula, with Lateral Luxation.* By R. L. SWAN, F.R.C.S.I.; Resident Surgeon, Dr. Steevens' Hospital.

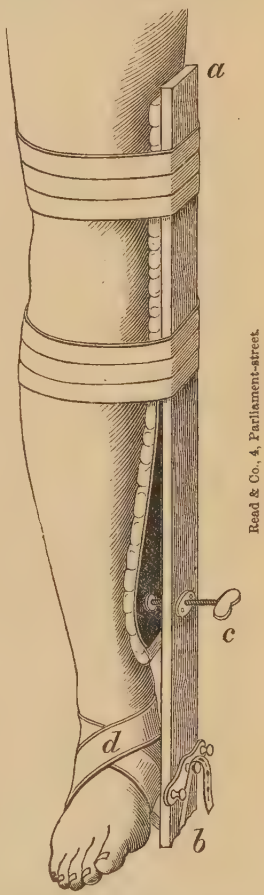
THERE is no assumption of originality in the construction of the splint, of which the accompanying woodcut is an illustration, for while it is often sufficiently easy to modify, or, perhaps, in minor details, to improve, to find what is new has become proverbially difficult. It is a modification of Dupuytren's splint, for the treatment of fracture of the fibula above the external malleolus, and consists of the following parts:—

A wooden splint, reaching from the inner side of the thigh to a few inches below the sole; a pad, fastened to a plate of metal, rendered more or less prominent by means of a screw, *c*; a chamois band, *d*, passing in the figure of 8 direction, round the instep, below the malleoli. This, attached by a hook to a strap, which, passing through a groove (of which there are three or four at the lower extremity of the splint, *b*), is fastened to a button at its external aspect.

Having had an opportunity of trying it many times in Dr. Steevens' Hospital, where fracture with lateral displacement existed, I am induced to claim for it the following advantages:—1st, facility of application; 2nd, neatness; and 3rd, superior ease to the patient.

The two first are, perhaps, not of much moment, though no surgeon will deny the comfort both to his patient and himself of easily adjustable apparatus. As regards neatness, the illustration is by no means unnatural. The third postulate is of superlative importance. In the ordinary splint—the instep covered with bandages, the foot in a fixed position, more or less inverted—no change

can be made without removing the entire appliance, a proceeding in itself painful and possibly injurious. In this modification the inversion of the foot can be increased by turning the screw, *c*, and thereby rendering the pad more prominent; and on the other hand, a few rotations in the opposite direction, by slightly diminishing the inversion, will afford an amount of relief scarcely credible from so slight an alteration.



The exposed condition of the seat of injury not only imparts a sensation of coolness to the patient, but also allows of the application of lotions if considered necessary. The surgeon can also, without difficulty, judge of the exact reduction of the fracture. The following brief cases are selected from a number of others:—

J. P., aged twenty-six, a patient of Mr. Colles, was admitted into Dr. Steevens' Hospital, July 16th, 1868. Fracture of fibula existed two and a half inches above malleolus, with great lateral displacement. Dupuytren's splints applied in the ordinary manner.

17th.—Spent a restless night; complaining of pain and tension at the seat of injury. The splint was taken off, during which, though gently handled, he experienced fresh suffering. The modified splint applied with a cold lotion to the seat of fracture. No further change made till union had taken place. He left hospital entirely recovered in less than six weeks.

T. R., aged sixty, admitted August, 1868, with a fracture one inch and a half above malleolus, presenting its ordinary symptoms. Applied the modified splint. Left hospital in seven weeks.

M. K., aged forty-two, sent to hospital by Mr. Wilmot. Had received a fracture of fibula many weeks before, for which he had been treated by a bone-setter. Permanent eversion existed. While standing, he rested on the internal malleolus, which had a tendency to ulcerate. Applied the splint, placing the pad above

the inner malleolus. The patient being himself anxious for improvement, followed directions with such success that he is now able to rest the sole of the foot on the ground while walking, and with the assistance of a boot finds his condition much improved.

ART. V.—*On the Antiseptic Treatment of Wounds.* By WILLIAM MACCORMAC, M.A., M.D.; Fellow of the Royal College of Surgeons in Ireland; Fellow of the Royal Medical and Chirurgical Society of London; Member of the Senate of the Queen's University in Ireland; Member of the Surgical Society of Ireland; Member of the Ulster Medical Society; and one of the Surgeons to the Belfast General Hospital.

MORE than one hundred years ago a learned Irish bishop proclaimed as panacea for all human ills a very simple remedy, tar-water; and it is somewhat curious that for one of the derivatives of coal tar there should be claimed, at the present time, virtues almost as great, and fortunately much more tangible, than those which Bishop Berkley urged on behalf of his favourite nostrum.

To Professor Lister, of Glasgow, we owe an innovation in surgical practice, which, were it only partially to accomplish all that it assumes to accomplish, would rank amongst the greatest surgical achievements of our day. The successful and rapid healing of wounds and, in addition, rendering them innocuous during the process of healing—robbing them, in fact, of the dangers which so frequently beset them—are the merits claimed by Mr. Lister for the antiseptic method. And no surgeon can exaggerate the importance of such pretensions if sustainable. The question, however, is as yet by no means finally settled; and it is in order that what little experience I have recently gained in the use of this method may be laid before the profession, that I have deemed it expedient to offer this contribution to the pages of the *Dublin Quarterly Journal.*

The nature of the subject, along with its great importance, demand the most careful and candid consideration. And I would here deprecate the attempts that have been made to deprive Professor Lister of the great merit of introducing this plan of treatment.

Carbolic acid has been in use for a considerable time, but not

as it is used by Mr. Lister, and it is the particular method in which the carbolic acid, or other antiseptic, is used by that surgeon which constitutes Mr. Lister's claim to originality. It may indeed be that minute atmospheric germs, in gaining access to the recesses of a wound, prove the active cause of putrefaction. Certainly the researches of Pasteur, and the experiments of Lister appear strongly confirmatory of the theory. But whether this be the true cause or not, there is no one likely to dispute that the contact of putrescent animal matter with a wounded surface is fraught with many dangerous evils, and that the prevention of decomposition in wounds will avert many of the dangers incident to traumatic lesions. Carbolic acid or, to speak more correctly, Phenic alcohol appears to possess antiseptic properties of the very highest order; and is perhaps the agent best suited for surgical purposes that could be selected.

At first, I must confess, the results I obtained after the carbolic acid treatment were not so satisfactory as I had been led to anticipate; but on further and more careful trials, more decided benefits were realized, so much so as to lead me to attribute my previous illsuccess to want of familiarity with the method, or perhaps to some carelessness in the application of the dressings. The mode of dressing I have usually employed is not so complicated as that of Professor Lister, since the use of putty or plasters is, in most instances, dispensed with. The wound, all hemorrhage having been carefully staunched, is first washed out with a weak solution, one part in thirty of carbolic acid, the edges are then coapted, and several layers of lint, soaked in carbolic oil, one part in four, applied. The only other precaution needful is to keep the lint daily freshened with oil, and in this way its antiseptic properties seem thoroughly preserved. In cases of compound fractures the simple superposition of some folds of lint soaked in oil, has proved adequate to prevent septic change, without injecting the acid into the wound. In these cases there is usually profuse hemorrhage, and when the wound is small the air is washed out with the blood, so that it appears to me to be in most instances unnecessary, and therefore undesirable, to inject the acid. When abscesses are opened I do not generally think it needful, before incising them, to apply an antiseptic veil of lint. The tension of the parts causes the pus to jet out with more or less force, and so long as any regurgitation of air is prevented no harm can accrue.

Case I.—The first time I had occasion to use the antiseptic method was in August, 1867. On the first day of that month a quarryman, forty years of age, was in the act of withdrawing a charge of powder from a quarryhole. The blast exploded, and the poor man was driven to some distance by the violence of the explosion. When admitted I found him suffering severely from the shock. His face was tatooed by the gunpowder, the right eye destroyed by effusion of blood within the globe, and the anterior lamina of the left cornea engrained with small particles of charcoal, which with some difficulty were picked out by means of a sharp pointed hook. Both forearms were lacerated. The right had only sustained a severe flesh wound, but on the left side the ulna was extensively comminuted, and the soft parts covering the bone were literally blown away through an extent of three inches of the middle of the forearm. The parts were, in addition, blackened and much contused. I removed three or four loose portions of bone, and ascertained the condition of a much larger piece, about an inch and a-half long, which, although comparatively loose, I considered should be left untouched. The wound was then filled up with pieces of lint steeped in a saturated solution of carbolic acid, while a padded splint was bandaged along the anterior surface of the limb.

It is unnecessary to detail the progress of the case further than to say that the carbolic acid was renewed as often as required in the dressings. The discharge of pus from the wound proved limited. There was likewise a small amount of swelling in the limb, unattended with pain or other signs of inflammation, which disappeared in a few days. On the 15th the wound is reported as granulating, and in every respect healthy. In five more days the wound in the arm is stated to be nearly filled up, and the patient had sufficiently recovered from his other injuries to be able to sit up. On the 25th he is reported as convalescent, the wound of the broken arm is almost perfectly whole, while that in the other is beginning to cicatrize. In short, the compound fracture of the ulna, comminuted though it were, appeared to cause, in no respect, more constitutional disturbance than if it had been an ordinary simple one.

Case II.—The next case I should wish to report is that of a labouring man, fifty-eight years of age, who had previously enjoyed good health. Whilst engaged unloading a truck, laden

with railway metals, the horse suddenly started forwards, and an iron rail, which was being taken off the cart at the moment, fell heavily, crushing the man's leg against some rails lying on the ground.

The result was a compound comminuted fracture of both bones in the lower third of the leg. A small wound, from which issued a free arterial stream, led down to the broken tibia. The soft parts were evidently much contused. Carbolic acid dressing, with carbolized paste, was applied, and in about ten days it was ascertained that the wound had healed without suppuration. In six weeks the limb was put up in a starched bandage, and the patient was able to sit up the day after. No more pain or inconvenience was complained of than would necessarily attend the occurrence of a simple fracture. He left hospital in less than seven weeks after the accident.

Case III. was that of a young man, under the care of my colleague Professor Gordon. Whilst adjusting a driving-belt he missed his footing, and in his fall his leg passed between two cog-wheels. The injury inflicted was so severe, both of the soft parts and of the bones, that Dr. Gordon feared amputation would be unavoidable. He determined, however, to make an attempt to save the limb. The parts were dressed with the carbolized lotion, carbolic paste being superimposed. The patient progressed very favourably. In six weeks the splints were removed, union having taken place. A superficial granulating surface, which took a long time to heal, alone remained. The man otherwise made an excellent recovery—one which could scarcely have been anticipated after such a severe and extensive injury.

Case IV.—John O'Neill, fifty years of age, was brought to hospital in a state of great intoxication on the 26th December. No history could be procured as to how he met the accident. He had been picked up in the street, brought to his own house, and thence to hospital. He had probably been run over by a street car, and left as he lay by the driver. On admission he was still labouring under great excitement, and could with difficulty be restrained. Indeed, so violent was his conduct that he succeeded before I saw him in converting a simple fracture into a compound one. The limb was put up temporarily by the resident pupil in Clines splints. When I visited the man early next morning I found that he had spent a very restless night, and had completely

disarranged the apparatus. The limb was swollen with extravasated blood, and appeared also much contused. Both tibia and fibula were broken about three inches above the ankle-joint. The former bone had been extensively comminuted, and there was a small wound leading down to the fracture, caused, as previously mentioned, by the protrusion of one of the fragments. From this, venous blood was oozing copiously. The fracture, which had been much displaced, was readjusted, lint soaked in carbolic oil was laid over the wound, a back and two lateral splints were applied, and the whole apparatus was swung in a suspension cradle. Three days after, the state of the patient was very satisfactory. The pulse had fallen to 84. There were no signs of constitutional distress, or of local inflammation; in fact, the skin of the limb had become wrinkled in consequence of the partial subsidence of the swelling. The dressings and splints were not touched, but a quantity of carbolized oil was daily poured in the lint. The patient states that he is suffering hardly any pain, and only experiences such inconvenience as his constrained position necessitates.

On Jan. 9, a fortnight after the injury, the limb was examined for the first time. On removing the splints it was evident that the swelling had completely subsided. The patient complained of no pain, or even of much discomfort. The inner layer of the carbolized lint was firmly cemented to the wound, and was not removed. There was not a trace of suppurative action about the parts. The apparatus was reapplied as before. On January 19th, more than three weeks after the accident, the splints were re-adjusted a second time, and the wound dressed. On removing the lint the wound was found to have perfectly healed without a sign of pus. Without any exaggeration, it may be affirmed that this compound fracture was causing no more difficulty of any kind than if it had been a simple one. On January 24th, four weeks after the man's admission to hospital, he was fast recovering, and in all respects convalescent.

Case V.—Patrick Kelly, who states that he is forty years of age, but who looks ten years older, was admitted to hospital on July 31st, 1868. He is a plasterer by trade, and had fallen from a scaffold no great height a short time previously.

He was a very intemperate man, and in 1851 had had a paralytic seizure which largely deprived him of the use of his left arm and leg. His utterance is thick, and he protrudes the tongue to one side.

On examination I found the right leg fractured at the junction

of the lower and middle third of the limb, and the soft parts around much contused. There was a wound just above the inner condyle of the left humerus, which affords access to the elbow-joint, and into which the finger easily passed to the opposite side of the limb, right through the joint. A careful examination proved that there was considerable comminution of the lower end of the humerus. A large piece of bone, corresponding to the termination of the internal condyloid ridge, lay loosely in the orifice of the wound, and was removed. Several other pieces could also be felt more or less loose. In short, the amount of injury appeared so extensive, and the antecedents of the patient so unsatisfactory, that his prospects, under any form of treatment, seemed to me most unpromising.

Primary excision of the elbow-joint, with the possible alternative of amputation should the injury appear too severe to justify an attempt to save the limb, was very strongly urged. The man stoutly refused to permit anything whatever to be done, except simply to dress his arm. Carbolized oil was therefore applied on lint, and an angular splint, to support the joint, bandaged to the limb. Some slight oozing of blood followed, which coagulated in the dressings. The fracture of the leg was put up in splints in the usual way, resting on the outer side. Except soaking the dressings daily with fresh oil, the arm was not disturbed until August 8th, nine days after the injury. During this time the man complained of no suffering from the injured arm, and there were absolutely no signs of local inflammatory action, or of general disturbance. The fractured leg, indeed, gave more trouble than the arm, as there was a great deal of swelling accompanied by the formation of numerous bullæ, filled with dark-coloured serum. On removing the lint covering the wound of the elbow, a small quantity of matter was seen. On clearing this away the opening appeared quite filled up with granulations, level with the surrounding surface. The carbolic lotion was now substituted for carbolic oil in the dressings. On the 16th September, six weeks after admission, I find the report in the case-book is that up till this date the patient has progressed in every respect satisfactorily, and that he is now quite convalescent. He left the hospital soon afterwards, perfectly recovered from the consequences of the accident.

Whatever share the antiseptic treatment may have had in promoting so successful an issue in this case, there is no doubt that, taking all the circumstances into account, this very serious injury

of an important joint proceeded to a favourable termination in a manner quite exceptional. There was throughout absolutely no sign of inflammation about the elbow, and the compound comminuted fracture of the joint seemed to cause less annoyance to the patient, and to invoke fewer signs of constitutional irritation or inflammation, than did the simple fracture of the leg. At the time Kelly left the hospital he enjoyed very considerable power of extending and flexing the arm, the motions of pronation and supination being also preserved, and these would doubtless become largely increased through time and exercise.

Case VI. is an interesting one. An intemperate man, called Barry, forty-five years of age, fell whilst drunk. According to his own statement he merely tumbled off his feet on the edge of the footpath. He had been celebrating, after his fashion, a rather notorious anniversary in the North of Ireland, the 12th of July, on which day the accident occurred. However produced, we found that he had sustained an extensive contused wound, some six inches long, stretching from the back of one condyle of the femur right across the front of the knee-joint to the other. The patella was transversely fractured at the middle of the bone. The quadriceps extensor tendon, where attached to the upper border of the patella, was also much torn. Of course the knee-joint was extensively laid open, and the articulating surface of the lower end of the femur could be touched and seen.

Formerly not much hesitation would have been shown, under these circumstances, in amputating the thigh. I placed the limb, however, in a carefully prepared straight splint, and carbolized oil was put on the wound after it had been cleaned and saturated. As additional safeguards against inflammation, Signoroni's tourniquet was adjusted over the course of the femoral artery, near the groin, and a bag of ice applied to the joint. The day after, the parts were found to be somewhat swollen, the patient experienced pain, the pulse was 112, and the tongue was furred. These symptoms soon subsided, and five days after the accident the pulse was only 100, and the tongue cleaning, while the swelling around the joint was diminishing.

I need hardly enter into further details. The edges of the wound sloughed to a slight extent, and when the sloughs were thrown off, healthy granulations occupied their place, and these, by the 12th of August, had almost quite cicatrized. Perfect

bony union took place between the broken fragments of the patella, and, what is yet more strange, anchylosis of the knee-joint did not occur. The man left the hospital on the 28th of September, and he could then flex the limb through fifteen or twenty degrees. As the treatment employed was somewhat complex, one cannot exactly mete out to each remedial agent its due share in promoting recovery, or say how far anyone was paramount. It may be interesting to quote a case mentioned by Mr. Syme in the *British Medical Journal* for January 4, 1868. A farm servant, fifty-three years old, cut his knee open with a scythe, dividing the quadriceps extensor tendon. Carbolized oil was freely used, both inside and over the wound, and a splint to keep the limb straight was applied. Not the slightest constitutional or local disturbance followed. The stitches were removed on the fourth day, the wound being healed, and the patient left the hospital with a strong and flexible limb in a month. This result Mr. Syme characterizes as a very remarkable, if not unprecedented occurrence. My own case is one of much more extensive injury to the same joint, inflicted in a much ruder manner, and yet recovery rapidly took place, under what appeared most unfavourable circumstances. The real question at issue is how far the antiseptic treatment employed in these two cases promoted these remarkable, but certainly not unprecedented, recoveries. I have the most distinct recollection of a case which happened about fifteen years ago, when I was House Surgeon in the hospital of which I am now the surgeon. A man about fifty years of age was admitted with extensive compound comminuted fracture of the patella, caused by falling on his bent knee from a considerable height. I readily passed my finger into the cavity of the joint, through the fragments of the broken patella. The man would not submit to amputation, and he recovered perfectly with a useful limb. Antiseptic dressings in those days were not much thought of.

Case VII.—A lad of fifteen had his hand caught in a fluting machine in one of the mills. A wound, opening into the wrist-joint, extended from the ulnar border of the palm around the base of the thumb, as far as the base of the metacarpal bone of the index finger. The soft parts on the radial border of the wrist had been completely severed. The trapezium and trapezoid were both injured, the scaphoid bone was displaced backwards, and the joints of the second row of the carpus laid open. Carbolized oil

dressings were employed, and a palmar splint, extending up the forearm, applied. Although such severe injury had been inflicted upon a very complex joint, there ensued only a moderate amount of inflammatory swelling, with but trifling suppuration, and recovery proved so rapid that in a fortnight the site of injury was found occupied by a superficial granulating surface, of which the greater portion had cicatrized in the course of the third week. In five weeks the boy left the hospital, the power of motion of the thumb, no doubt, greatly impaired, and with a good deal of stiffness of the wrist, but otherwise likely to have an extremely useful hand.

Case VIII.—I had recently occasion to amputate the thigh in the lower third of the limb for a large cartilaginous tumour of the tibia, occurring in a young labourer. Carbolized dressings and antiseptic ligatures were used. The stump was not touched for a week, save to pour carbolized oil on it daily, and on the dressings being taken off, the flaps were found united firmly almost throughout. At the external angle of the wound, the only part unclosed, there had been a slight oozing of blood, and one drachm of innocuous pus escaped. From the very first the patient enjoyed the greatest comfort and relief, and there was no constitutional disturbance whatever. One fortnight after the operation, it is reported in the case-book that all the ligatures are gone, that the flaps are both deeply and superficially united, without a trace of sinus. In short, the patient is quite convalescent, and able to get about. His general condition is excellent, and the only complaint he made since the limb was removed was that he did not get sufficient to eat. Such complete union after amputation of the thigh, without either general or local disturbance of any sort, is a clinical fact of sufficient rarity to be worthy of record.

I need scarcely weary the patience of my readers by detailing other instances in which I have used carbolic acid dressing. I have employed it in various ways to wounds, after opening abscesses, as an application to non-infecting venereal sores, and to phagedenic and other ulcers, with very beneficial effects. Sometimes I have met with disappointment, but generally the results have been extremely satisfactory and encouraging. The instances I have cited are perhaps, on the whole, the most important and illustrative that have come under my observation, and merit, I think, the serious attention of practical surgeons.

These and similar cases, occurring as they have done in the practice of many surgeons, must be more than mere coincidences. No doubt wounds healed kindly before carbolic acid was heard of, and on the other hand some forms of injury, taking place in unhealthy subjects, will do badly under any kind of treatment. But all this notwithstanding, the results which have been achieved since the antiseptic method has been used, appear such as to cause what was formerly the exception to become the rule. It was heretofore a very exceptional matter to see a compound fracture of the lower limb unite, as if it had been a simple one. Surgical fever, often of the severest type, necrosis of portions of the bone, diffuse inflammation and suppuration of the limb, with tedious recovery, or hectic and death, were not uncommon. The experience which I have had leads me to hope and believe that such accidents will become rare when antiseptic principles of treatment are more generally recognized and adopted.

The conclusions I am disposed to draw in respect of the surgical uses of carbolized dressings are—first, that by their means those conditions which promote the formation of pus are sometimes wholly prevented, at other times greatly diminished in power, and that when pus is formed it proves an innocuous fluid, not prone to decomposition, and not injuring by its presence the wounded surface with which it is in contact. Secondly, I think the amount of pus is diminished where suppuration does occur. Thirdly, I have been much struck by the absence of those results of serious injuries, which so usually ensue both in the neighbourhood of the wounded parts, and constitutionally. I have observed over and over again the almost total absence of pain, inflammatory swelling, and surgical fever where such might otherwise have been expected to occur. In extensive injuries, involving the deeper seated parts, it has appeared to me that those structures heal more readily, and that the wound soon becomes merely superficial, a granulating surface closing in, and protecting the tissues beneath. When this result is attained it then becomes no longer necessary to continue rigidly the antiseptic treatment, and the wound may be treated like any ordinary superficial ulcer, with such applications as may appear best suited to promote healing, amongst which the carbolized lotion should occupy a high place. Fourthly, I am disposed to believe that pyemia will become comparatively of rare occurrence, but to establish this as a certain fact will require a very long series of observations. The theory that Professor Lister offers to account for all this is one of great simplicity, and one

which so far explains the facts observed, and until one more satisfactory be offered, we are perhaps bound to accept it. However, be it true or false, by acting strictly in accordance with its requirements, the surgeon will, I believe, procure results which he could not otherwise have anticipated. I think the candid and truly scientific manner in which Professor Lister has promulgated his discovery is deserving of much praise. It is now for surgeons to examine into his claims in an impartial and scientific spirit. It is only, I would add in conclusion, by a large and extended experience that such claims can be fairly and sufficiently tested. For this reason I considered the knowledge which I have hitherto been able to gain of the uses of carbolic acid in antiseptic surgery are deserving of the consideration of the readers of this journal.

ART. VI.—*On an Epidemic of Fever at Simons Town, Cape of Good Hope, in* 1867-68. By FLEETWOOD CHURCHILL, jun., Fellow of the King and Queen's College of Physicians; Licentiate of the Royal College of Surgeons; Physician to the Institution for Diseases of Women and Children in Pitt-street; to the Magdalen Asylum, and to the Clergy Daughters' School.[a]

IN July last, the south-western part of the Cape Colony was visited by an epidemic of fever, which lasted until the end of April, when it ceased as an epidemic, though cases still appeared as late as July of this year. The majority of the cases which I saw resembled typhus in their symptoms; some, however, in character approached more nearly typhoid, and some ordinary continued fever. At first we felt much anxiety lest it might turn out to be the much-dreaded Mauritius fever, as for a long time we knew little of the exact nature, though we heard much of the fatal results of that fever; in fact, it was from England that we received the first definite information on that

[a] Read at a meeting of the Medical Society of the College of Physicians.

point. Simons Town, where I lived, is twenty-four miles south of Cape Town, where the disease first showed itself. The first case that occurred was in the last week of August, in a child who had not been in Cape Town that year, and none of whose family living in the house had been there for some short time before the disease broke out. Simons Town itself is a small town of 2,000 inhabitants, the large majority being of the coloured races. It is situated at the north-western extremity of False Bay, and both it and the main road are built on level ground, which has been cut out from the side of the surrounding hills. In front of the houses which face the sea is the main road, running about twenty feet perpendicularly above the seabeach, and on the bank thus formed the drains, and nearly all the sewerage of the town, is emptied. Higher up the hill is a smaller road, with houses on both sides, which have no drains at all, except a small paved gutter, which runs on both sides of the road, and empties itself nowhere in particular. In the summer the heat of the sun dries up its contents, while in winter the rain floods it; so that part of the filth is spread over and runs down the connecting lanes, to the Main-street, where it may, or may not, find its way into the underground drains. The supply of water from tanks supplied by springs, for drinking and house purposes, is (except in a very dry summer like the last) quite sufficient. The houses in the Main-street are mostly fair sized, but all the houses, or nearly all, are built with flat roofs, either mortar or iron, with just sufficient slope to let rain run off. During summer the mortar roofs crack, and leak badly when it rains. At the north end of the town runs a stream, which is nearly dry in summer, as it depends on the drainage from the large flat valley above the Simons Town range of hills; along its banks a range of houses has been built, which have neither backyards nor privies, and into which water has not been led. The inhabitants procure water from a spring during the summer, and from the stream itself during winter. Most of the people here are washerwomen, and wash in the stream itself. In the summer, when the water is low, and almost stagnant, the smell from it is disgusting, besides which, the people who live all around use the bushes as water-closets; and as the ground there dips towards the stream, the washings of the hill side, after rain, find their way to the water. There are no drains there at all. The hills are metamorphic sandstone, overlaying granite, with a northerly strike and very irregular dip, and at their base thickly covered with bush; indeed the ground on which the

town stands presents more the appearance of a talus, resting on granite, and composed of dense, tenacious blue clay, then red clay, with bands of sandstone breccia, and in parts a thick bed of iron stone covering that. Very few of the houses in the town are provided with water-closets; instead of a cesspool, the usual plan is to have a privy, with a tub of wood or iron, which is emptied when full, or at the owner's will. In some few cases the owners utilize the contents of their tubs, by having them buried in their gardens, but generally the tubs are emptied into the sea, and washed there. There is a law forbidding them to be emptied after 6 a.m., or before 9 p.m., or the contents to be thrown on the bank which bounds the main road. All the houses inhabited by either Malays or Blacks are very much overcrowded — men and women of all ages sleeping and living in the same room, which may partly account for the utter want of any attempt at morality on the part of the Blacks. But the overcrowding does not produce the same injurious effects among the Malays as the Blacks, for this reason: the Malays are personally very clean and temperate in their habits, their houses are in general fairly clean, and contrast favourably with rooms I have seen in this city. Both Malays and Blacks have equal objections to open windows. I think, considering the filth, overcrowding, and neglect of all sanitary precautions, the only wonder is that Cape Town and Simons Town are as healthy as they are. Fever, small-pox, scarlet fever, and measles, are diseases which do not appear in either of these towns except as epidemics. Cholera has never visited the colony. There is one village between Cape Town and Simons Town where fever of a low type is not uncommon, but that place is situated at the foot of high hills, on a low damp soil, and surrounded thickly with trees. I believe that the reason why Cape Town and Simons Town escape is that, from their position, they are open to the full force of the heavy N.W. and S.E. gales that blow during the winter and summer months; the nor-wester brings the semi-tropical showers that prevail during winter; while in the summer the south-easter gales seldom cease for more than a week or ten days at a time, and with it there is the hot sun; the south-easter is the evaporating wind, is always cold and dry, and has the popular name of the "Cape Doctor." The high temperature in the summer depends on the sun, not the wind, so that the variations in the thermometer are great and sudden; between sunrise and sunset, 20 to 25 degrees is by no means an uncommon range at all. The barometer does not vary so much,

the greatest range it has taken during eleven years has been from 30·80 down to 29·46 (I have taken the even numbers); but I have only seen it reach those points once. The heaviest gale that ever was witnessed at the Cape accompanied the low reading. The ordinary range is about an inch—rather less than more. As might be supposed from the sudden thermometric changes, rheumatism is very common, and phthisical cases do very badly in Cape Town; while Simons Town, both for frequency and rapidity, is a perfect slaughter-house for that class of patients, which do very well in other parts of the colony. I have taken up a good deal of space in this description, because I am anxious to make it clear why this particular portion of the colony should have suffered so severely from the epidemic, while only a very few towns on the mainland, and those only in direct communication with Cape Town, had any cases at all. One town is an exception, however, as it is situated on the sea coast, nearly 400 miles east of Cape Town, and the disease appeared there a short time before it did in the latter place. Whether the fever was imported from that town, by sea, to Cape Town or not, I cannot say; it is pretty certain that it did not come by land, as the villages on the direct route between the two places escaped, with the exception of one about 12 miles from Cape Town.

The first case in Simons Town occurred, as I have said, in the last week of August, 1867, and the epidemic lasted till the end of April, 1868, during which time there were 335 cases, and 26 deaths. In this number I do not include the cases which occurred in H. M. ships. They were treated, partly in the R. N. Hospital, but mainly in a temporary hospital fitted up in the dockyard, under the charge of my friend Dr. Olive, of H.M.S. "Seringapatam." I had no account of these cases at all. I will first give the total number of cases in the Simons Town district, as that will include several cases in my district, but which I was unable to attend personally owing to the long distances and the pressure of work in Simons Town itself. The plan I adopted with these outlying places was to show a few cases to some of the more intelligent people living there, explain what symptoms were likely to occur, and give them quinine, with directions how to use it. From them I learned how these cases were going on, and just managed as well as I could.

The total number of cases in the Simons Town district has been:—

	Total Cases	Sex		Deaths		Total Deaths
		Male	Female	Male	Female	
White,	66	36	30	2	0	2
Malay,	59	35	24	2	0	2
Black,	210	117	93	16	6	22
	335	188	147	20	6	26

In Simons Town alone, under my own personal care, I had—

	Total Cases	Sex		Deaths		Total Deaths
		Male	Female	Male	Female	
White,	62	31	31	1	0	1
Malay,	51	30	21	2	0	2
Black,	176	90	86	13	4	17
	289	151	138	16	4	20

Forty-six cases occurred in the outlying portions of the district, and out of these six died—five being Blacks; it is possible that had they been in Simons Town more of them might have recovered, but they refused to be moved.

I will now describe one of the fair average cases. A white woman, aged thirty-five, one of whose children I was attending, and who had always been healthy, complained of not having felt well for the last seven days; was chilly, with headache, and slight pains in her legs, though up till this time she had been quite able to attend her sick child. On that morning I found her sitting down nursing her baby. She hardly answered when I spoke to her. Her tongue was thickly covered with white fur; her breath very offensive; her face looked very dusky, though the cheeks were slightly flushed; eyes bright, no suffusion, and no intolerance of light; her pulse slow, 50; regular, and very weak. She had

much less milk than a few days before. With some difficulty I persuaded her to allow the child to be sent out to nurse. Next day the milk was almost gone, and the breasts were flaccid; had had rather a bad night; slept very little, waking up startled from short dozes, and talking a good deal. At this time—10 a.m.—she was quite delirious; her bowels had not acted at all for some days, and the urine was scanty and high coloured; her skin was hot and dry; no appetite, but considerable thirst, which was quite satisfied with small quantities of cold water. With some difficulty I got her to answer a few questions, as she was very deaf. She made no particular complaint, but after answering my questions correctly, wandered again instantly. On the fourth day a few petechiæ were noticed on her chest. Subsequently a few showed on the back and arms, but none on the face or legs. She continued in this state, with very little change, till the fourteenth day, when the few petechiæ there had been quite disappeared. She now began to perspire, and to improve very slowly; but it was not till the thirtieth day of her illness that the fever was completely gone, and even then she was a little deaf; but she slept well, her skin was cool, and her appetite fairly established.

It was, however, more than two months longer before she was able to attend in her shop, or look after her children. This is a fair average case; not nearly so bad as many, and worse than some. The amount of prostration caused by the disease was curious, and bore no proportion to the amount of fever which it followed. In my own case I had been seeing my patients in the morning, and felt quite well. I came home to dinner in the middle of the day, and as I was tired I laid down to rest for an hour. I fell asleep, and woke with a hot, burning skin, and great thirst, but no headache. I thought it was merely from exposure to the sun, and was going out again, but my friend Dr. Olive came in just then, and told me what was the matter. Next day I could hardly walk from weakness, and though the actual fever only lasted five days, and I never had felt bad enough to stay in bed, it was three weeks from the time the fever left me before I was able to walk a mile and a half over a level road. In all the cases there was great debility remaining, and, as I said before, the amount of prostration was out of all proportion to the fever; indeed, I think that there was more debility, and it came on more suddenly in slight cases than in those of a more severe character. In one slight case, in a lady, I found that each of the finger nails had two small purple spots,

one on each side; they came during the night, and gave no pain, lasted some time, and then died away. I do not know whether they ought to be considered as petechiæ or not, but there were none others. The most remarkable point in this lady's case was, that though not a more severe attack than my own, it was followed, in addition to the usual great prostration, by a curious loss of memory as to the order and way in which she ought to put on her clothes. For more than a week she was obliged to lay her things on a sofa in the order in which she was to put them on next morning, and even then she could not always remember the way to put each article on. As an example: one day she told me that she had been for more than a quarter of an hour trying to put her dress on by getting in at the neck part. Other mistakes of the same sort constantly occurred for a fortnight, when her memory was restored. I have no opinion to offer as to what this state depended on.

The great majority of the cases were similar to the one I have read, differing only in intensity, but in a few there were some different symptoms superadded. In seven cases (six women, and one man, who died) there was very slight difficulty in passing water; in no case did it amount to complete retention, nor was it necessary to use a catheter, as they were all relieved in a few minutes by hot fomentations applied over the bladder. Of these patients the man only was delirious at the time, and they each complained of the difficulty themselves. In some instances, indeed, those of their friends who were watching them during their illness knew nothing about it. I found, also, in some of these cases, that when the difficulty was removed, the urine passing gave rise to a feeling of soreness in the urethra. In all these cases the actual quantity of urine so detained was very small. This condition of the urine only once lasted more than twenty-four hours, nor did it follow that because one act of micturition was attended with difficulty or pain each succeeding act would be so. It was quite uncertain, and the patient having no pain or uneasiness between times, could not tell herself whether she could or could not pass her water as usual. I have no idea at all why more women than men should have suffered in this way, nor do I think that age or colour had anything to do with it. White and black were equally attacked, and all were below forty-five; in all the catamenia had been regular. I may mention that irregularity of the menses is very rare in black women; I am not sure that I ever saw a case. In ten cases (seven women and three men) there was

subsultus; all were delirious at the time. The subsultus was so violent that the patients were quite unable to use their hands, and there was some trouble in feeding them, as they wanted to help themselves very much, and spilt their food and medicine, and being deaf as well as delirious, it was very difficult to get them to understand what I wished them to do. Of these ten four died, one being the fatal case with difficulty in passing urine. I found that of all delirious cases the whites were much the most unmanageable. Generally speaking, the blacks became quiet at once when desired, but made many objections to the taste of quinine. In forty-three cases there was great deafness from the very first, quite independent of any delirium. In one case I was obliged to write on a slate for a few days the questions I had to ask. For the first month of the epidemic all the cases that were attacked had a slow and very weak pulse, generally about 50. The treatment I adopted was very simple: quinine, in two-grain doses, three times a day, for adults, from the time I was sure of the disease; for children, half that quantity. Aperients were generally necessary, and castor oil answered well. Sometimes, when the thirst was very urgent, I ordered a seidlitz powder instead, but I found that its action was uncertain, very frequently not acting at all, though they were always grateful to the patient. Opium, in one or other of its forms, was very frequently necessary to procure sleep. In one case in which it always disagreed I gave three grains of the extract of hyoscyamus at night, which put a stop to the restlessness, though without procuring much sleep. For the inability to pass water I used no special internal remedies. I found that no treatment relieved the subsultus in any degree, and I at first tried everything I could think of, except shaving and blistering the head and neck; but as I had seen that done in the fever hospital in Cape Town, and did not find that any good resulted, I did not try it. Wine and brandy, more particularly the latter, I did not use, unless it was absolutely necessary. The remedies I relied on most were:—

1st. Quinine regularly given, without reference to any head symptoms that might be present, and as the tendency was always to constipation, I never gave it with dilute sulphuric acid.

2nd. Strong beef-tea, given in spoonfuls every half hour; when I could rely on the attendants, in larger quantities, and not so frequently when I could not. Sponging the body with tepid water and vinegar in the evening gave great relief, and refreshed the patients so much that they slept afterwards.

Now, from the twenty deaths in Simons Town, there are some, I think, that may be deducted as not having died of fever alone, though they had fever at the time they died. Four (one man and three women) were dying when first I saw them, having been found by the police lying in the bush without house, shelter, or food, and, of course, exposed to the weather; they were at once removed to the jail, as paupers, for hospital treatment. They were in such a wretched state that nothing could be made out of them at all as to their illness, and it was with great difficulty they could be got to swallow wine or anything else. The contents of their bowels and bladder passed under them. One man, a white, while delirious, managed to evade his watcher, and hung himself in his garden. Another, a prisoner, was, by orders received from the Colonial Office, removed from the jail to the hospital in Cape Town, and though doing very well at the time he started, unluckily died about a week after in the hospital, as far as I could ascertain from a relapse. He was sent away because the Colonial Government were anxious that all pauper fever patients should be sent up to the hospital for fear of the prisoners being infected. Some of the prisoners were afterwards attacked, and several more paupers were taken into the jail, but I kept them there till they died or were discharged well. One Kaffir, while delirious, escaped one morning early from his countrymen, and was found next day, naked, under a bush, at the foot of the waterfall, where he had been since his escape. Of the remaining thirteen, one Malay man was sixty. He had been living with his two sons in a small room; both the sons were attacked, and, having no relations, he stayed and nursed them through the whole illness, watching them most carefully night and day, hardly ever leaving the room: they both recovered. One black man was seventy, and a black woman seventy-two. I mention these three cases, as from their age I had very little hope of them from the first. They each ran steadily down from the time they were attacked, and I do not think that they can be considered as any test of treatment. That leaves eleven, who, while in good health and strength, living in fair-sized houses, and with plenty of nourishment at the time of their being attacked, died in spite of my utmost efforts.

Now, during the whole time, I had no hospital, though it was proposed by the inhabitants that some place should be hired for that purpose, so that all the blacks could be removed there as soon as they were taken ill. No doubt, as I would have had responsible

attendants, they would have had more skilful nursing; but, on the other hand, there would have been a considerable number of cases collected in a building which was not adapted for a hospital, either as to ventilation, or the water supply, or latrines, and I cannot help thinking, for these reasons, that the fever would have been very likely to take on a more intense form, and thereby diminish the chance of recovery. I therefore objected, and pointed out that in the hospital in Cape Town, where everything was well arranged and at hand, the death rate was heavy; and urged, instead, that the sick should be left in their own houses, where I would see them each day. A sanitary committee was appointed, and the town divided into districts, two members to each district, as by the Cape law, during any epidemic. Two members of a sanitary committee going together have the power to enter any house and examine the inhabitants and building, and if the latter be dirty and the tenants unable to clean it, the committee have the power to have it cleaned and whitewashed at the landlord's expense. This was put in force, and in districts which were inhabited by the blacks, Malays, and poorer class of whites, a daily house to house visitation was made, and each fresh case, or suspicious case, was reported to me by nine o'clock in the morning. This saved me a great deal of trouble, as I always visited each district in order, and knew where to go in case the people of the house might not see me pass. As the blacks did not like this visitation by non-professional men at all, and looked at it as impertinent meddling, they very often contrived to hide patients from the visitors, but then they looked out for me. By this means the whole town was looked after well, and I am sure that I saw every case that occurred. In ordering wine or brandy I used to give the patient a ticket on which I marked what and how much they were to get, and then signed it, giving a fresh one each day when required. I also adopted the same plan with the beef-tea. The visitors of each district received these tickets, and gave what I had ordered, the expenses being borne by a relief subscription. The quinine I used was to a large extent given to me for the poor, and the offertory fund of the parish paid for the rest.

Lastly, though I have said the fever was mainly typhus, I decline to give a positive opinion on that point, because the great majority of the sick being coloured it was impossible to see any petechiæ, even if they existed, so that I could only judge by the general resemblance of the other symptoms to typhus fever.

ART. VII.—*Some Practical Remarks on Insolation; being a Thesis for the Degree of M.D. in the University of Dublin, Michaelmas Term*, 1868. By WILLIAM NOLAN, A.B. and M.D., Univ. Dub.; Assistant Surgeon, Bombay Army. 1868.

AMONG the different affections which are met in the tropics, insolation holds an important position—few requiring more care and discrimination in their management.

As the disease proves so frequently fatal, and often constitutes a considerable loss of strength in our army on foreign service, every opportunity of inquiry into its pathology should be sought after by the military surgeon.

In stations in India, where the duties are light, cases of sunstroke are by no means of frequent occurrence, so much improvement has been effected of late in everything connected with the soldier's comfort.

In time of war, however, on the occasion of hurried marches, or hard labour in strategical operations, the affection is very prevalent; and from observations recorded under such circumstances, where we can exclude a good many supposed causes, a correct knowledge of the subject will most probably be derived.

To enumerate all the supposed causes of, and conditions under which sunstroke occurs in the different tropical stations where our troops are serving, would be foreign to the present purpose. It will be sufficient to mention the most common, and those which have been noticed to be present in the cases forming the subject-matter of this thesis.

The first and commonest atmospheric condition is that of elevation of temperature, ranges of from 104° to 120° and 125° Fah. in the shade, being by no means unusual in many of our foreign stations for a month at a time. The disease is rarely epidemic at a temperature below 102°. Isolated instances occur at all times irrespective of the degree of solar heat; but, as a rule, the victims are those who were previously in enfeebled health, or who had not taken the precaution to adopt a suitable head-dress.

The sultry state of the atmosphere which precedes the monsoon in the tropics is very favourable to the production of insolation; direct exposure under these circumstances not being required. Many people are attacked in their houses at this period who have not been out of doors for several days previously. This, and the

fact of cases occurring when the sun and sky are clouded for weeks together, show that we must look for some cause of the disease other than the solar rays themselves.

A connexion between sunstroke and the existence in the air of gases the product of decomposition of animal or vegetable matter, is very frequently noticed; and from returns, there is no doubt but that where sanitary measures are properly carried out the disease is less common than where the opposite state of things exists.

During the prevalence, also, of the hot land-winds in India, especially those blowing from the north-west, the greater number of cases are, as a rule, seen. The air, heated in its passage over the burning sands of the deserts in its course, produces derangement of the skin's action in one or two ways.

In some cases we see the symptoms brought on by the heated air cooling by evaporation the moist surface of the body, and this process going on too long, perspiration stops altogether, and the important function of eliminating its excess of water from the blood is thus transferred to other organs which are not capable of doing this sufficiently quickly.

When there is heat without motion of the air, perspiration goes on too fast; and the blood, parting with its watery elements quicker than these are supplied from without, becomes inspissated and unfitted for circulation.

A very dry atmosphere, without at the same time unusually great heat or motion, from its parching effect on the skin, brings about a very irritable condition, which is frequently the forerunner of the disease for days before its development is complete.

The predisposing causes acting primarily on the system would seem to be an enfeebled state of body, with nervous depression, brought about, in most cases, by repeated attacks of malarial fever, or the existence of debilitating discharges.

Absence of sleep, whether rendered necessary by reason of occupation, or arising from that excitement so commonly felt in the tropics after unusual heat, brings about a state very favourable to the production of insolation. Extreme irritability, almost approaching delirium, being, in many cases, brought about by it.

Chronic alcoholism, from the nervous depression accompanying this state, has always been looked on as one of the most predisposing conditions; but on service it hardly ever constitutes a cause, the absence of stimulants in small quantities, and well diluted with water, being probably a much greater one.

Intermittent and remittent fever, either during their periods of incubation, intermission, or remission, from their often constituting a great proportion of the causes of sickness in the tropics, furnish a condition of the system especially favourable to the development of sunstroke. Indeed, so often do we observe the one turning into, or alternating with the other, we are inclined to think that the two affections are identical, or, in other words, that sunstroke is only an aggravated form of ague. The resemblance, however, is only one of which we have numerous examples, as malarial poison stamps with its own mark, and gives its peculiar features to nearly every tropical disease. It might be urged, in the same way, that dysentery, so common in the tropics, was but an aggravated symptom of ague, so frequently is it seen in connexion with it; but both it and sunstroke are familiar examples of disease, losing their distinctive features, owing to their being engrafted on and incorporated with the malarial diathesis.

If the germs of malarial fever exist in the body, the accession of any other local or general disease is sure to develope them, the complication aggravating the secondary disease.

To distinguish sunstroke from malarial fevers, the main points on which we rely are the suddenness of the accession of the former, the persistent body heat, as manifested by Aitken's thermometer, the normal temperature being never reached until the fifth or sixth day, when the disease is declining, the early coma and stertor, the upturned eye, and the contracted pupil.

Suddenness of accession does not hold good in all cases of sunstroke, as a very common form of it comes on gradually. Here the thermometer, indicating a temperature of from 102° to 105°, and not the gradual increase, until the maximum is obtained, as we see in ague, must, in connexion with the cerebral symptoms, be our guide.

In practice we meet the following varieties, each differing from the other in important points.

First may be described a form characterized by its suddenness of accession and abruptly fatal termination, and to which the term "sunstroke" is particularly applicable. When it is seen there is generally no opportunity of our being able to do anything to save the patient, the power of swallowing being speedily lost, rendering the administration of medicine by the mouth hazardous, from the danger of bringing on suffocation; and though in a great many instances powerful stimulants, in the form of enema, have been administered, a fatal termination is the rule.

We generally find, in a case of this sort, that the patient who but a few minutes previously had been engaged in conversation with his companions, had suddenly fallen to the ground as if stunned; his respiration had become hurried; and that, after a few minutes, he had lapsed into a state of insensibility.

This variety usually occurs in the afternoon at about three or four o'clock; rarely before midday. *Post mortem* examination shows a congested state of the lungs, in some cases amounting to blackness, though instances are known in which neither this nor any other lesion existed which would explain the cause of death. Cadaveric rigidity is very strongly marked, and great heat of body remains for a considerable time after death.

The second form is characterized by its premonitory symptoms, its comparative slowness of accession, and its long duration. It is preceded by a state of weariness and sense of exhaustion, with frequent sighing, and a desire to sleep. A dull aching pain in the occiput, and throbbing of the temples, usher in delirium, the patient's raving being usually the first thing that draws attention to his condition. This variety occurs principally at night time. Noises in the ears, fulness of the head, and a sensation of constriction of the thorax are complained of. The pulse is full and bounding, and the surface heat is intense.

There is a great tendency to periodicity in this form long after the patient has been removed from the exciting cause, in those who have previously had some type of malarial fever, the sunstroke element of the disease becoming gradually less distinct.

The third is the convulsive form. Like the second, it has its premonitory stage; but, instead of symptoms of depression, it is marked by those of extreme irritability. This variety usually arises from exposure of the neck and shoulders for some time to the sun. The skin becomes dry and scaly, and afterwards painful and inflamed, thereby giving rise to an eccentric source of irritation, which, being conveyed to the spinal chord by the excito-motor nerves, convulsions are developed as its expression.

Two other varieties remain to be described, not so distinct, however, as the foregoing, but rather divisions of the first form, in which, owing to the patient surviving some time, we can observe the symptoms.

The first that may be mentioned is that in which pulmonary congestion, with delirium, presents itself. This state comes on generally very suddenly. The surface of the body and the

extremities are cold, but the thermometer in the axilla shows an increase of temperature in proportion to the extent to which the lungs are implicated. The degrees of severity vary from slight congestion to intense engorgement, with blood of the pulmonary substance.

In the next variety the cerebral symptoms predominate. In it we find that pinky colour of the conjunctiva so often referred to as diagnostic of sunstroke; the pupils are usually contracted, the surface of the body cold and moist, respiration slow and stertorous; there is an inability to be roused, and the general appearance, in the absence of other evidence, would suggest that the patient had been stunned. If recovery take place, partial or general paralysis and chronic headache, with not unfrequently insanity, are developed as sequelæ.

In point of frequency the foregoing varieties occur in the following order, viz.:—

The suddenly fatal, the pulmonary congestive, the cerebral congestive, the convulsive, and the gradually approaching form.

If, then, we would treat sunstroke with any prospect of success, we must keep in mind the different varieties that may occur.

In the sudden form, our first object is the removal of the patient to a place of shelter from the direct rays of the sun, and the immediate opening of any tight portions of the dress. If the man be a soldier fully accoutred, as is often the case, we will find that the multiplicity of straps with which his chest is covered has prevented its due expansion, and that the removal of these is followed by relief, the pressure being taken off the heart and great vessels of the neck. Then cold water, if it can be obtained, is to be repeatedly dashed over the face and shoulders, and this is to be continued for a considerable time, unless contra-indicated by pallor and coldness of the surface. If this state come on, we must not continue the douche, but rather take measures to promote warmth, and this is best effected by rubbing the surface of the body with brandy or turpentine and warm water, the only remedies, as a rule, at hand under the circumstances. Artificial respiration, as in the case of the apparently drowned, should always be tried. The upright position is to be maintained as much as possible, and the patient roused by keeping him in motion. If he can swallow, brandy and ammonia, with warm water, must be freely administered. Stimulant enemas may also be tried. *A mustard emetic,*

at the commencement, if it can be given with safety, is a most valuable remedy.

In the second form, an ipecacuanha emetic, followed by a brisk purgative of calomel and jalap, will generally be found useful, rest being enjoined, and cold lotions applied to the head. Stimulants should not be given. Leeches to the temples are followed by relief of the head symptoms, and this is the only form of sunstroke in which blood-letting is not contra-indicated.

In the convulsive form most benefit is derived from the *inhalation of chloroform*, guarding, however, against producing insensibility. Those parts of the body which have been exposed to the sun should be sponged with warm water, and any emolient ointment, such as the unguentum cetacci, may be applied. A full opiate should be administered, our object here being to promote sleep, and to keep the patient tranquil.

In that form, characterized by great oppression of breathing, with coldness of the extremities, the application of sinapisms to the soles of the feet and to the surface of the chest relieve the congestion, or cloths wrung out of hot water and turpentine may be wrapped round the chest, repeating these at intervals of twenty minutes or half an hour. Turpentine and brandy in warm water, in the form of punch, given internally at the same time, are useful. Blood-letting, on the principle of relieving the congested state of the lungs, has, from experience, been found inadmissible—this form resembling, to a great extent, the asthenic type of pneumonia.

In the last variety, and that which I regard as the most formidable, means which tend to prevent the effusion of serum into the ventricles of the brain must be adopted. In order to effect this, the head should be shaved, and the acetum lyttæ applied to the scalp. Calomel should be pushed to salivation, or until amelioration of the symptoms commences, stimulants and cold effusion being inadmissible.

To prevent the occurrence of sunstroke, those exposed by the nature of their occupation to the solar rays should be directed to keep their hair continually moist, to wear a head-dress, if possible, which will admit of being soaked in water, and which will retain it, or a wet handkerchief under the ordinary solar helmets will have an equally good effect. Alcoholic stimulants, if taken well diluted with water, and in moderation, are decidedly beneficial, the system, unaided, not being able to recover itself sufficiently rapidly without

these, from the depression which excessive perspiration and long exposure to the sun tend to produce.

In Abyssinia the natives wear lumps of butter on their heads, which, melting by the heat of the sun, lubricates the neck and shoulders; and as head-dresses are seldom worn by them, apart from their being acclimatized, it must be a protection. The oil prevents the drying up of the skin, and is at the same time an artificial source of moisture when the blood, having been deprived of its watery constituents, ceases to maintain the supply to the skin. The convulsive form of the disease may, at least, be avoided by this precaution.

It is satisfactory to see how much less frequently sunstroke occurs now among our troops serving abroad than was the case some years since. Accounts of long marches, unnecessarily made during the day by men fully accoutred, and with the usual result, being now happily rare, the exigencies of war at the present day alone justifying such proceedings.

The preceding remarks constitute an outline of the disease and the treatment adopted in it by me when in medical charge of over 1,000 men, engaged in the arduous task of constructing the Abyssinian railway between Zoulla and Komaylee, under a temperature and tropical sun scarcely to be equalled in the habitable world, and where a large number of cases occurred. In nearly every uncomplicated instance, when the treatment could be commenced early, recovery was the rule. I have accordingly deemed the notes taken hurriedly at the time worth collecting, and making the subject of my thesis.—*Hyderabad, October*, 1868.

ART. VIII.—*On the Treatment of Granular Ophthalmia and Pannus by Inoculation.* By J. G. HILDIGE, F.R.C.S.I.; Surgeon to the National Eye and Ear Hospital.

THE following cases, treated at the National Eye and Ear Hospital, show the efficacy of inoculation as a remedy for the cure of the above diseases, when all other means had proved unavailing.

CASE I.—Ellen B., aged seventeen, of a healthy and tolerably strong appearance, applied for medical advice under the following circumstances. She stated that when she was four years of age her

eyes commenced to be affected, and ever since that time, during a period of thirteen years, she had been almost continually under medical treatment, her sight being occasionally so bad that she was obliged to be led about. On examination I found the cornea of each eye extremely vascular, and so opaque that it was with difficulty she could discern large objects placed near her. The mucous lining of the upper eyelids was covered with granulations and much thickened; it also showed signs of long-continued treatment. She suffered considerably from pain in the eyeballs and temples, which from time to time became so severe, particularly at night, that sleep was completely banished from her pillow. As the usual remedies were followed only by temporary improvement, and as she had been suffering so long from the disease, I resolved to have recourse to inoculation, a remedy which I had seen elsewhere employed with the best possible results, and which was not contra-indicated in this case. The pus was taken from the eye of an infant suffering from acute purulent ophthalmia, and was introduced by means of a camel hair-brush between the girl's eyelids. After the expiration of twenty-four hours considerable irritation, accompanied by pain, set in, and at the end of forty-eight hours both eyes were suffering from an acute attack of purulent ophthalmia. Active antiphlogistic treatment was employed, the disease ran a favourable course, and at the end of fourteen days the inflammatory symptoms had subsided, leaving both corneæ perfectly sound, and showing indications of commencing improvement. Three weeks later both corneæ had become so transparent that the patient could read large type; and at present, four months from the day of inoculation, her eyes are perfectly sound, and her sight so good that she can read small type and see distant objects more distinctly than ever she remembers to have done in her life.

Case II.—Eliza S., aged fifteen, apparently of a healthy and strong constitution. She had suffered from granular lids and pannus of right eye for a period of three years, during the greater portion of which time she had been under medical treatment. The cartilage of the upper eyelid was hypertrophied, and its mucous lining, which was covered with granulations, was much thickened and altered in structure. The cornea was vascular and opaque, so that the eye was almost useless to her. The left eye presented no trace of disease, but the sight of it had become much impaired from sympathetic irritation. This patient was inoculated at the

same time as the preceding one, the left eye having been previously bandaged; and after a period of three days acute purulent ophthalmia, accompanied by considerable constitutional irritation, set in. The disease ran its course in about fourteen days, leaving the cornea perfectly sound; and at the end of ten weeks she could read ordinary-sized type with ease and see distant objects.

Case III.—Mrs. B., aged forty-five, of a somewhat delicate appearance. She had suffered from granular lids for several years; both corneæ were, however, perfectly transparent. Her sight was extremely bad, owing to a lesion of the retina which had existed for some time, and which was slowly progressing. She was inoculated with pus taken from a patient suffering from blenorrhea. A slight attack of purulent inflammation followed after a period of forty-eight hours. At the end of three weeks the attack had passed away, destroying every trace of granulations, and leaving both corneæ intact.

Case IV.—John B., aged ten, of a strong and healthy appearance. He had suffered for six months from granular ophthalmia, complicated with hypertrophy and ectropium of the eyelids of both eyes. The corneæ were perfectly transparent. Not wishing to resort to inoculation before making a trial of other remedies, I excised a portion of the diseased membrane from the internal surface of each lid, and afterwards cauterized the parts with the solid nitrate of silver, a pad and bandage being placed on each eye in order to retain the parts *in situ*. This mode of treatment was continued for some time, but was not attended with any permanent benefit, so that I determined to treat the case by inoculation. A severe attack of purulent ophthalmia followed the application of the pus; it yielded readily, however, to treatment, so that at the end of ten weeks every vestige of the disease had disappeared, the ectropium being completely removed and the boy's vision excellent.

I have treated other cases of opacity by this means, and with the same beneficial results; and I consider that it may be safely resorted to in every case of granular ophthalmia, except when it is contra-indicated by a strumous or syphilitic diathesis, in which cases diphtheritic inflammation would be the inevitable result.

ART. IX.—*Contributions to Operative Surgery.* By RICHARD HARRIS, M.R.C.S., Eng.; Surgeon to Newcastle Hospital, New South Wales.

CASE I.—*Ovariotomy with Free Fecal Discharge from Wound—Recovery.*

MISS S., aged twenty-three, had been tapped twice during the past three months for ovarian dropsy; upwards of twenty quarts of fluid drawn off. Placed herself under my care July 13th, 1868.

The abdomen was then enormously distended, concealing a large tumour on the left side. She had enjoyed good health up to the period of her arrival in this colony, three years since. She then felt, for the first time, a small tumour in her left side, which at first increased slowly, but afterwards became enormously enlarged by what she described as another tumour growing out of the former, and extending towards the right side. Her general health continued to be good, but her body was wasting rapidly.

From the great distention of the abdomen it was impossible to ascertain the nature, size, or attachments of the tumour.

The operation of tapping was again performed, and eleven quarts of dark gelatinous fluid was drawn off. It was then ascertained that the tumour, a multilocular one, arose from the left ovary, and was attached to it by a pedicle about three inches long, and extended upwards for about twelve inches, as far as the diaphragm would permit. The tumour was movable; the uterus and its other appendages healthy.

On the 18th the operation was performed in the Newcastle Hospital. The patient having been placed under the influence of chloroform, an incision was made in the linea alba, extending from within an inch of the umbilicus, to about the same distance from the pubes. The dissection was carefully made; all arteries secured as the operation proceeded. The peritoneum was hooked up, and opened by passing the knife along a director. The hand was then passed into the abdomen, and examination made as to its attachments, and the feasibility of proceeding with the operation considered. The tumour was found adhering extensively to the surrounding parts, all of which adhesions, with the exception of two, were easily broken down with the hand; the other two at length gave way without any important blood vessel having been injured. The tumour was found to be much too large for extraction,

the wound was therefore extended two inches; being still too large it was found to be necessary to tap two of the cysts and take away about three quarts of fluid. The only mishap which occurred during the operation was, at this time, the person holding the vessel to catch the fluid pushed it too rudely against the canula, and knocked it out of the tumour, in consequence of which a quantity of the fluid escaped into the abdomen.

The tumour thus reduced in size was turned out, and was still as large as a full grown baby. The pedicle was found to be about three inches long, and about one and a-half inches in diameter, springing from the left ovary, which was itself so much enlarged as to require removal. A needle bearing a double thread of silk was passed through the pedicle below the ovary, and tied on each side; to ensure safety a second ligature was tied around the entire pedicle, the tumour removed close to the ligature, and the stump dropped into the pelvis. All fluid was then carefully removed from amongst the intestines with sponges, and the wound closed by six deep stitches, which took in the peritoneum, superficial stitches being inserted every half inch; cold water dressing secured with a flannel, many tailed bandage, &c.

For twenty-four hours after the operation the depression was extreme, being aggravated by constant vomiting. The vomiting was at length subdued by the free use of champagne, creasote, opium, &c.

20th.—Slight re-action; vomiting had almost ceased; citrate of ammonia for drink; beef-tea enema at intervals; no pain, tenderness, or heat in wound; towards night, violent spasm in stomach; forty drops tincture opium; spent a good night.

21st.—Has retained beef-tea, arrowroot, wine, &c., during the night.

22nd.—Great restlessness; no pain; passes water freely; vagina much inflamed; spasm of stomach returned.

23rd.—Good night; wishes for food; skin cool; pulse steady, at 80; feels comfortable; no pain or soreness in the abdomen; slept well during the day; 10 p.m., a slight circumscribed swelling on the pubes.

24th.—Has had a restless night; deep stitches removed; vomiting returned; bowels relieved; no sleep; forty gts. tincture opium, per anum, without effect; very restless; catheter used.

25th.—No sleep; bowels opened twice during the night; 25 gts. tincture opium per anum; 40 gts. chlorodyne; 10 gr. cit. of iron and

quinine every four hours; wound looks well, showing only a moist line in its track. 10 p.m., lower end of wound inflaming.

26th.—Good night; free discharge from lower part of wound; 40 gts. chlorodyne.

27th.—Rather better this morning; less restless; retained an egg; wound discharging from the cellular structure; swelling over the pubes gone.

30th.—No sleep; wound discharging freely; stomach very irritable; superficial sutures removed; wound dressed with adhesive plaster.

August 1st.—Progressing favourably; bowels irritable; wound open its full extent, and discharging freely.

2nd.—Bad night; stomach irritable; constant spasm of stomach; 40 gts. chlorodyne rejected; 25 gts. tincture opium in enema; great flatulence; no effort at healing in the wound; edges of incision as sharp as when first made.

3rd.—Great restlessness, spasm, and irritability of stomach; acid hydrocya; gts. iv. pro re nata; solid food retained; wine and tonic rejected.

4th.—Opium enema; wound dressed with lin. lyttæ.

5th.—Leuchorrhea which usually precedes menstruation; edges of wound a little inflamed; dressed with carbolic oil; stomach still very irritable.

6th.—Free discharge of pus from vagina; upper third of wound healed; no pain or tenderness at any time in the pubic region.

8th.—Catamenia fever much less; stomach settled; appetite good.

13th.—Discharge from vagina large; irritable bladder.

14th.—Incontinence of urine; health improving.

15th.—Wound burrowing in the cellular substance.

17th.—Violent vomiting and purging; pulse 140; small and wiry, caused by improper food.

18th.—Vomiting moderated.

19th.—Retains food.

27th.—Fecal discharge from the wound near the navel; fever returned.

28th.—Fecal discharge profuse; bowels freely open.

29th.—Discharge has ceased; stomach settled much better.

31st.—A return of the discharge from the vagina; bladder very irritable.

October 4th.—Progressing favourably; general health good; wound not yet healed.

CASE II.—*Remarkable Case of Subperitoneal Fibrous Tumour.*

Mrs. S., aged thirty-three, Nullipara, had been suffering from the effects of a tumour in the left pelvic region, for the last five years. When presenting herself to me the abdomen was distended to an enormous size. Although a very slight figure, the girth of her waist was forty-nine inches, the integuments of her abdomen were stretched to a glassy smoothness, and, as neither fluid nor motion could be detected, it was quite impossible to arrive at any certain diagnosis as to its nature or attachments. The conclusion I came to was subperitoneal fibrous tumour attached to the fundus of the uterus. The tumour had been punctured twice by a former medical attendant, thereby showing its solidity; it was lifted completely out of the pelvis so as not to be touched from the vagina. The uterus was much wasted; catamenia regular; bowels much obstructed; bladder free. The pressure on the stomach was at this time so great, that the smallest quantity of food produced excruciating pain. The body was much wasted.

The patient was most importunate to be operated on, and although the nature of the operation, the great risk attending it, and the almost certainty of its failure, were fully explained to her, she still persisted, stating that her present sufferings were intolerable.

Having been placed under the influence of chloroform, an incision was made through the linea alba, when it appeared that the natural structure of the muscles was completely changed, being incorporated with the substance of the tumour, so much so that I could not tell where the junction took place. Supposing this state might have been caused by the inflammation produced by the introduction of the trocar, a careful dissection was made at either side, and either end of the incision, without being able to distinguish one structure from the other. Seeing the utter impossibility of proceeding, I dressed the wound with carbolic acid, closed it with deep and superficial stitches; lint soaked in carbolic acid placed over all. On the third day the deep stitches were removed; on the fifth there was so much strain on the superficial stitches that I removed them also; the integuments flying back to the extent of four inches.

She progressed favourably for six days, when pyemia set in; death ensued on the eleventh day (so much for carbolic acid dressing).

Autopsy.—The tumour was found not only to be adherent to the parietes of the abdomen, from kidney to kidney, but was intimately connected therewith; the back part of the tumour only being free, I separated it carefully from its lateral attachments, and on attempting to turn it out, found it had no further attachment either to the uterus or ovaries, having been entirely supported by its adhesions to the abdominal wall. The uterus itself was very much wasted; in fact, there was nothing left but a thin membranous substance, attached to which there were six smaller tumours, the largest about half a pound weight. The tumour, when cut into, was perfectly solid, and composed of hard granular fatty substance, similar to the brisket of the bullock. It weighed fifteen and a-half pounds.

What were its original attachments?

ART. X.—*Notices of the Abnormalities of Serous Membranes.* By LAWSON TAIT, Member of the Surgical Society of Ireland, &c.

IN putting on record a description of some abnormalities which I have recently found in the pericardium and peritoneum, I am actuated by the consideration that in one case there existed a peculiarity of the arrangement of the peritoneum, which does not seem to have been hitherto observed, and in the other two instances the peculiarities observed confirm facts already noticed by others.

CASE I.—*Congenital Absence of the Pericardium.*—A. P., aged twenty-nine, presented an extremely anemic condition. A year before I saw her the right mamma had been removed for malignant disease, at St. Mary's Hospital, Manchester. For some months after her recovery from the operation she acted as a barmaid, and enjoyed perfect health. About seven months after the operation she began to find that on any unusual amount of exertion she became breathless, and this affection increased so rapidly that in two months more she was entirely disqualified for work. Her condition, when I saw her, indicated serious disease; and from the physical signs, I diagnosed mitral constriction, with perfect inelasticity of the valvular orifice.[a] The question occurred,

[a] Vide Med. Press and Circular, July, 1868.

Might it be malignant disease? and I was inclined to believe that it was. The fatal issue occurred three weeks after she came under my care, and *post mortem* examination showed that I was right as to the condition of the valve, but wrong as to the variety of the disease. The valve admitted the middle finger, and both flaps were much ulcerated on the upper surface. The disease was atheromatous deposit, extending completely round the valve, and of a very soft consistence, owing this probably to its rapid deposition. Besides this disease two peculiarities, of a congenital character, were found; but, to my regret, they must be recorded imperfectly, as I was prevented by the friends of the patient from examining anything but the heart, and from removing any part. That which will require shortest mention is the fact that the aortic valves consisted of only two pouches, quite healthy, and with the *corpora arantii* but faintly marked, and a coronary artery arising from each *sinus*. This peculiarity is described by Meckel, Cruveilhier, and Henle, as being very rare; variation in the number of pouches being much more common in the pulmonary valves than in the aortic, and increase of the number to four being commoner than its reduction to two. There existed, also, the somewhat rare condition of absence of the pericardium. On removing the sternum and costal cartilages no peculiarity was apparent, as I had not opened into either pleura, and a mass of loose connective tissue seemed, as usual, to occupy the anterior mediastinum. When I endeavoured to pinch up the pericardium, that I might make an incision into it, I found that I could only get a hold of the substance of the heart. I was under the impression that I had made a mistake in my diagnosis, and had to do with a case of pericarditis and consequent adhesion. On making an incision, almost in the middle line, I came upon a nerve, which a slight dissection showed me to be the left phrenic. I then slit open the left pleura and at once exposed the lung and the left side of the heart. On opening the right pleura, I exposed the right auricle and its appendage. I was a little puzzled at first, but soon came to the conclusion that it was a condition, the occurrence of which I had not before been aware of, viz., absence of the pericardium. On the left side the parietal pleura was continued from the vessels downwards, to about an inch from the apex, and forwards as far as the anterior coronary artery, thence to the cartilages. On the right side its relation was much more limited, being confined entirely to the auricle. This abnormality, although

very rare, has been, at various times, noticed. A summary of the cases observed, prior to 1840, is given in an excellent paper by Mr. Curling, in the XXI. Vol. of the *Transactions of the Medico-Chirurgical Society of London*, where he describes a case with great accuracy; and I am glad to find that the few points which I observed in the above case substantially corroborates the appearances found by Mr. Curling.

Case II.—*Congenital Deficiency of all the Folds of the Peritoneum.* The following peculiarities were observed in the case of a prisoner in the West Riding House of Correction on April 28, 1868, who had died of acute leucocytosis, under the charge of my deeply lamented friend the late Mr. Milner, surgeon to that Institution. The *post mortem* was made by us in concert, and the notes, which were most carefully made, were transcribed in the Hospital case book. The pathological appearances of the case do not at all bear on the peculiarities about to be narrated, and need not be mentioned. On opening the abdomen by the usual incision, we were struck by the remarkable appearance of the intestines. They presented an exactly similar appearance to that seen when the convolutions of the brain, with the arachnoid over them, are exposed by laying open the *dura mater*. The peritoneum was perfectly transparent, free from the slightest appearance of inflammatory action, and, instead of being in relation to the whole circumference of the walls of the small intestines, and dipping down to the posterior abdominal wall to form mesenteries, it passed from one coil to another, being in relation to about a third only of the circumference, and disposed exactly as the arachnoid is to the sulci of the brain. It formed a mesentery at no point of the small intestine, nor, indeed, elsewhere. There was no appearance of the great omentum. Tracing the peritoneum, from the umbilicus upwards, I found that it left the parietes at the level of the edge of the liver, to be continued at once over the lower surface of that organ, as far as the portal fissure; and behind the vessels and duct, entering and emerging there, it turned as usual, and formed Winslow's foramen. The upper surface of the liver, and its posterior edge, had no relation whatever to the peritoneum, but were attached immediately to the diaphragm by the ordinary loose sub-peritoneal connective tissue; while the only ligament the organ had was an unusual anterior-marginal single layer of membrane, in which, however, was embedded the usual round ligament. The lesser cavity of the

sac was extremely limited in extent, and its capacity was not greater than would contain an orange. At the lower and posterior part it had relation to the head of the pancreas to the extent of about a square inch, and a still slighter connexion with the duodenum; superiorly it had a limited relation to the under surface of the liver—anteriorly it covered about one-third of the posterior wall of the stomach. From the anterior wall of the stomach the peritoneum proceeded directly to the anterior wall of the transverse colon, the gastro-colic omentum being represented by about half-an-inch of a single layer of membrane. From the colon it passed to the small intestines, being related to them as before described, and left them again to be related to the anterior abdominal wall, three inches above the fundus of the bladder. The diaphragm at no point was in actual contact with peritoneum. There was no gastro-splenic omentum, as the spleen was entirely divested of serous covering, and lay at some distance from the peritoneum, as also did the kidneys and ureters. Neither the cecum, ascending colon, descending colon, nor sigmoid flexure had any serous covering. The bladder had no relation to the peritoneum. The testicles were both in the scrotum, and had the usual tunica originalis.

In correspondence with my friend and former teacher, Prof. Cleland, on this case, he has kindly expressed his opinion regarding it as follows:—"I have thought over this very interesting case, and think that probably you had an instance of a similar sequence of events to that which I pointed out as happening, normally, in connexion with the descending colon, where a viscus, originally perfectly invested, comes to be only partially so on account of the peritoneum not being extended throughout its extent proportionally with the growth of the other parts. Or, to put it otherwise, you have an instance of the same sort of thing, as I suppose to have occurred in the case of the colon, in my abnormality" (referring to an interesting communication in the May number of "Humphrey and Turner's Journal of Anatomy and Physiology," to which I shall more particularly allude afterwards), "viz., viscera enlarging and becoming coiled within a fold of peritoneum, without the peritoneum retaining its hold of the visceral surface so intimately as to be pulled out along with it and follow its convolutions. How far you may see your way to concur in this view I cannot say; but, whatever the explanation, the case seems to have been a most curious and interesting one."

Apart from the fact that Dr. Cleland is one of our greatest authorities on questions of development, more especially of abdominal organs, his explanation is so evidently the correct one, that I have no hesitation whatever in accepting it. The only question which remains is, I think, that of the period at which the arrest of development took place. One fact, the existence of the tunica vaginalis, settles a period before which it did not happen. The perfect regularity with which organs were stripped in proportion as they were distant from the centre of the peritoneal sac, and the extent to which this was accomplished, seem to me to point to a very late fetal age, or, more probably, advanced infancy, as the period at which the abnormality originated, and in this Dr. Cleland agrees with me.

I may state that no indication of other abnormality existed in the body.

Case III.—As bearing on Professor Cleland's communication on arrest of development of the meso-colon, I may briefly narrate a case where I met what was doubtless the same abnormality in a much less prominent form. In his case the arrest of development had either taken place at such an early period, or was so complete, that it extended throughout the meso-colon, causing the colon to make a double flexure on itself, and the aborted mesentery to form a ring which had descended over the small intestines, or through which they passed, so that they were lodged in a third and abnormal sac of peritoneum. In my case, which happened to be one in which there was a dispute whether typhoid fever existed, and in which, therefore, the cecum had to be specially examined, the following was the condition:—There was a distinct meso-colon coming close up to the cecum, the latter making a slight turn upwards, and to the left. At the lower part of this bend, the peritoneum folded to form the dexter pillar of a ring, the sinister pillar of which was formed similarly by the meso-ileum. Into this ring I could introduce four fingers, and the cavity bounded by it was of a capacity sufficient to contain an orange. In it were the vermiform appendix, part of the cecum, and about two inches of the ileum, all destitute of mesentery but invested, on one side, by serous membrane. The explanation of it is evidently that the part of the ascending colon, immediately above the cecum, continued to grow in length after the vermiform appendix and caput cecum coli had got fixed in position. The pouch would have been everted

by pulling down the vermiform appendix. To account for the pouch, we must suppose that the commencement of the ascending colon, in passing on to a lower position than the cecum, had carried with it the small extent of loose peritoneum then lying on its left, between it and the ileum; thus dragging a portion of the ileum down, and covering it and the cecum with a hood.

ART. XI.—*Injuries of the Head.* By R. J. KINKEAD, A.B., and L.M., T.C.D., L.R.C.S.I., and L.M., Tuam, County Galway.

I. BULLET WOUND OF SCALP—RECOVERY.
II. CONGESTION AND IRRITATION OF BRAIN AFTER INJURY SIMULATING HYSTERIA.
III. LOSS OF THE GREATER PART OF THE VAULT OF THE CRANIUM —RECOVERY.

INJURIES of the head are, perhaps, the most interesting, and, at the same time, most paradoxical cases that come under a surgeon's notice.

The skull, containing, as it does, one of the great nervous centres, one leg of what has been described as the "tripod of life," has a very important office, the guardianship of the most delicate and sensitive organ in the human body.

When we consider the close connexion that subsists between the external and internal structures of the head, the complex nature of the functions performed by the brain, the exquisite regulation of pressure necessary to a due performance of its duties, and the fineness of the boundary between health and disease, the great importance and intense interest of injuries of the head are at once manifest. The wonder is how it can be injured even slightly, and serious consequences not ensue.

Yet in this the paradox consists, that in no given case from the slightest blow to the most severe injury can the surgeon predicate a certain result. The most trivial injury may be followed by death, whilst from an accident which would have been thought incompatible with life, not even a bad symptom may follow.

The variety of symptoms arising from injury of the brain substance, adds greatly to the interest of these cases.

Owing to the extensive distribution of cerebral nerves, to the fact that from origin to final extremity, each nerve-fibre is a complete

separate existence, commencing from no parent trunk, although, perhaps, joining with others, to form what is usually called a nerve, keeping distinct its own individuality, transmitting direct to the brain each sensation, and being reacted on by the brain in turn, a thorough knowledge of the anatomy of the nervous system is absolutely necessary.

The exact local origin, what portion, what "tract" of the brain, each nerve springs from, its course and relations, what branches it gives off, to what parts, to what organs it is distributed, where are its ultimate terminations, what its character, its vocation, whether motor or sensitive, what symptoms would be likely to follow evil at its origin, or irritation at its extremity, must be known, and known thoroughly, in order to treat such affections skilfully. To form a correct diagnosis is, in many cases, most difficult; no class of disease is so easily similated as the nervous, and, again, the most opposite causes will frequently produce the same effects. Too great pressure and too little, will give rise to similar symptoms, and those too the salient ones. Depressed bone, extravasated fluid, a foreign body in the brain, may occasion convulsions, coma, and stertorous breathing. Hindrance or obstruction of the cerebral circulation may have a similar effect.

I may be pardoned if wandering from the subject. I relate a case that occurred in my own practice, a couple of years ago, which illustrates the foregoing statement, and also points out that we should not form our diagnosis from one or two symptoms, but from all the circumstances of the case, as well as from the signs of the disease. I believe there is no better plan of making a true diagnosis, and at the same time educating the memory, than in every case marshalling before the mind, all the diseases or injuries that might give rise to the symptoms present, and then examining each one to show cause why it is not the offender.

I was summoned one day in a great hurry to see an old lady who had been "seized with a fit" (she had had "a stroke" of paralysis about three years previously). I found her on her bed perfectly unconscious. I pinched her arm, pulled the hair on the temples; no sign of feeling was shown; the pupils were insensible to the stimulus of light, the breathing stertorous, the surface of the body was cold, the pulse feeble and fluttering, no signs of congestion about the head, on the contrary it was paler. I ventured to hazard the opinion that she was not suffering from apoplexy (which was the notion previously entertained), and was laughed at; however, I applied mustard

blisters to nape of neck, stomach, over the region of the heart, inside of thighs, and hot bottles to the feet. After a time, seeing an inclination to vomit, I had the patient turned on her side. She discharged the contents of her stomach and a large quantity of wind, and presently revived. I am happy to be able to state that she is alive, and in good health, at the present date. She had eaten an apple; her mastication being bad, the apple, instead of being digested, stayed in her stomach, and generated wind; the inflated stomach impeded the heart's not over strong action, diminished the supply of blood to the brain, and hence those symptoms which so closely resembled pressure on the brain.

The following cases need no apology for being laid before the notice of the profession. Two of them, at least, possess considerable interest; one I believe to be unique; another is not out of the run of ordinary wounds of the scalp, but helps to illustrate the uncertainty of issue that attends injuries of the head.

On the 27th of March, a Colt's revolver was fired at the yard-door of an empty house from the top window of the next one. The window was distant from the door about fifty yards.

The ball passing through the door, which was half inch thick, took effect in the head of a man, who happened to pass at the moment the pistol was discharged; he was, when struck, one and a-half yard distant from the door.

The ball entered a little above, and posterior to the junction of the occipital, parietal, and temporal bones on the right side, in which position I felt it quite distinctly, lying against the skull.

Having cut down and extracted the bullet (which, by the way, was perfectly flattened), there was some smart hemorrhage from a small artery. Not being able to pass a ligature round it without enlarging the wound more than I cared to, I determined to use acupressure in order to stop the bleeding (which was active enough); whilst waiting for a needle I passed the point of a tenaculum either through or as near to the bleeding vessel as possible, compressing it sufficiently against the scalp, to stop the flow of blood. On withdrawing the instrument (after about five minutes), there was no return of the bleeding. The wound united by the first intention. About ten days after the injury a little pus was discharged, occasioned by a slight exfoliation of the bone. The man recovered without a single bad symptom. The short time pressure of the tenaculum was used, being sufficient to arrest the hemorrhage, is

worthy of notice. The calibre of the artery, judging from the jet of blood, was about that of a crow-quill.

I was asked on the 15th of October to go see a girl, aged nineteen, who had been beaten the day before. I received the following history of the occurrence. The house had been attacked, set on fire, &c., a few days previously. On the evening of the 14th of October, between six and seven p.m., the girl went out to keep watch about the place whilst her master and mistress were at tea, taking for her defence an old court sword, set in a heavy wooden handle. In the avenue she was met by a man, who first hit her over the left eye, and then wrenching the sword from her, struck her over the head with the handle, knocking her senseless against a wall. She could not say how long she remained in that condition, but on recovering her senses the man was gone. She walked into the house, was brought to town, a distance of a mile, and then by the police to the magistrate's house, about another mile out of town. She gave her informations before the magistrate in a very clear and intelligent manner. She had been in her present situation two years, with her master's son-in-law for three years previously, during which time she had never been ill or complained of any sickness or pain save toothache. Had menstruated regularly for some time; had been "unwell" about a week or ten days before she was beaten.

She had a mark over left eye; a blow struck with the side-face towards the striker, would be likely to cause such a wound. It resembled more the blow of a stone than of a fist. There was also a slight swelling on the top and posterior portion of left side of scalp; very great tenderness on pressure; very great pain at epigastrium, with excessive tenderness; face flushed; tongue foul and dry; pulse slow and feeble; pupils quite even and act readily; no squinting; slight headache; intellect clear.

Sudden spasms come on about every ten minutes; a gasping cry; hands suddenly clasped; eyes tightly shut; angles of mouth drawn down; body slightly arched forward, and shake so violently that the very bed vibrates; after about half a minute or so hands slowly unclasp; body first arches back and then sinks on bed; a sighing expiration, and the fit is over for the present. She says that the gasping cry is occasioned by agonizing pain, shooting from ensiform cartilage to spine, which seizes her just as the fit begins; complains greatly of her heart, and a difficulty of swallowing.

16th.—Face more flushed and anxious; bowels not moved; pulse slow and full; tongue covered with a white fur; passed no

water since morning of 15th. In the evening, as no water had been passed for thirty-six hours, introduced a catheter, and drew off a small quantity of high-coloured urine; spasms every five minutes; heart's action tumultuous. Tr. digitalis mx. tertiis in horis.

17th.—Has not slept; mind wandering; on passing the catheter, although the urine at first flowed slowly through it after about a wine glassful passed, had to make considerable pressure on the abdomen to get the rest to run though the instrument; drew off about a pint; colour rather high; smell heavy; blister (mustard) to back of neck.

18th.—Better for a few hours, but got worse towards evening.

20th.—Passed a bad night; raved considerably; spasms continuing to recur every five minutes; great pain and tenderness at epigastrium; urine scanty; high-coloured; specific gravity, 1.018; tongue clearing; ordered blister to back of neck.

21st.—Something easier; blister not applied; tongue clean; spasms as violent as ever; blister to back of neck; leeches behind ears; is apparently salivated, although she got no mercury, save two doses of calomel and jalap, both of which operated.

22nd.—Slightly better.

23rd.—Much worse; raving more; tried several times during the night to throw herself out of bed; saw "things creeping on the wall;" blister back of head; and large dose of magnesia sulphas.

24th.—Better; spasms less in number; continue salts.

From this date she gradually got better, losing by degrees a confused giddy feel, and slight headache, which annoyed her for some time after her convalescence.

Treatment.—At first anti-spasmodics, cold lotions to head, and purgatives; then blisters to head; leeches and purgatives; all through, beef-tea.

There is, indeed, an intense interest in following a track through a maze of fallacy, a keen sense of enjoyment in the intellectual struggle, when all the powers of the mind are on the stretch to distinguish facts from fancies, truth from falsehood; and. although, where the witnesses, so to speak, for a comparatively harmless affection, and a grave disease threatening life, are in many cases nearly identical, there is a sense of weighty responsibility; the knowledge that on the correct decision hangs, humanly speaking, the future welfare, nay, in many instances, the life itself of the patient, this knowledge, I say, and this very responsibility, gives an independent self-reliant feeling, a sense of power that

amply repays the care and anxiety it exacts from us, and when, with God's blessing, we have decided rightly, and rescued a fellow-creature from death, a human being from a life of suffering, we have our reward, in a sense of happiness, an exquisite exultation, that I believe members of no other profession can feel.

This case seems to me of much interest. The slight signs of external injury, the serious nature of the symptoms, then the very peculiarity of the symptoms making the case doubtful at first, but when thought over, examined and sifted in the mind, gradually unfolding, dispelling doubts, and finally making the diagnosis more convincing, from the victory over the very misgivings they had at first started.

I was at first inclined to believe the case to be a purely "nervous" one, that the fright of the attack and beating acting on a mind, already agitated by former excitements, had given a severe shock to the nervous system. The usual symptoms of intracranial mischief were absent. There was no active delirium, no severe and constant headache, no squinting, no unevenness of the pupils. The pulse was slow and feeble; the pupils acted on the stimulus of light. There were no ordinary convulsions, nothing but the spasms, the intense pain from ensiform cartilage to spine, and the gasping cry when the fit was coming on. The next day hysteria came into the field of probabilities; but that evening and the following day routed that idea. The mind began to wander; the persons she had been daily in the habit of seeing were not known. She talked a little at times to herself; the fits were quite as bad when she was left alone; the urine was not hysterical, it was scanty, and of high colour. There appeared to be a total loss of power in the bladder; so much so that it required considerable pressure on the lower part of the abdomen to expel the water. After careful consideration and study, I came to the conclusion that she was suffering from congestion and irritation affecting chiefly the cerebellum, but slightly implicating the cerebrum also.

The spasms chiefly confined to the muscles, supplied by the pneumogastric. The remarkable slowness of the pulse, a slowness in speaking as if a want of power to articulate, was combined with a difficulty in collecting and arranging her words; the delirium resembling that of continued fever, rather than of active inflammation, and the marked improvement, following blisters to the back of head, and large doses of sulphate of magnesia, confirmed my opinion.

M. S., aged seventy, unmarried, called on me *at my own house*, on the 10th of last September, to consult me about what she called a "sore head."

History.—Catemenia have ceased some fifteen or twenty years; enjoyed good health till about ten years ago, when, "owing to trouble," she got epileptic fits for first time. The fits recurred about once a month.

About three months before the date of the present visit, (sometime in the month of June), whilst reaching for some article on the chimney-piece, she was seized with a fit and fell into the fire, striking her head, as she fell, against the hob of the grate; the head was burnt very severely, and having applied "many sorts of plasters," and the sore not healing, she at length came to me.

When she removed a most ingenious front of her own devising and the dressings, I saw, what she called a "sore!"

The integuments covering the top of the head were entirely gone, save a small isolated portion situated on the posterior part of the right parietal bone, separated from the living coverings of the head by a line of large flabby granulations, which, encircling the skull, cut off the denuded dead bone from the live integuments; included by this line were nearly the whole of the two parietal parts of the frontal and occipital bones, the isolated portion of the scalp before alluded to, and a small piece of pericranium dry and shrivelled, closely resembling old parchment; with this exception the bones were perfectly bare, quite dry, and warm to the touch.

On the right parietal bone a fracture running parallel to the sagittal suture, and sending off a branch which crossed it, was distinctly to be seen.

The granulations bled on being touched, and exuded healthy-looking pus. There was a rather fetid odour.

Since the accident, she had not had a single bad symptom. She said "she would be all right if the head healed up, as the discharge annoyed her."

The fits had not recurred.

Tongue was red, dry, and glazed down the middle; stomach rather irritable; pulse about 90 to 95, and weak; bowels inclined to be costive; appetite tolerable. She came to my house weekly, till the 7th of November, during which time the process of separation went on gradually.

On the 17th of November I was sent for, to see her for the first time in her own house, and found that while her sister was washing

the head, it being stooped over a basin, the calvarium had glided over her face into the vessel, leaving bare the dura mater, covered with healthy looking granulations, and perforated with three or four small holes, through which the brain substance could be seen. The portion of bone which came away consists of a small piece of the frontal, almost the entire of the two parietal, and a bit of the occipital bones. It measures seven inches from before backwards, and nearly five from side to side at its broadest part. (It is now in the museum of the Adelaide Hospital).

The raw surface left exposed has healed up wonderfully, and is at present almost entirely skinned over. The tongue has become quite healthy in appearance, the pathway down the centre being gone. The pulse has fallen to about 75, and got soft and full; the appetite greatly better; and the appearance of the patient is improved. She has picked up flesh, and is able to go about the house, and is only kept in by the inclemency of the weather.

She suffered a good deal from neuralgia, whilst the bones were separating. The treatment was very simple, a weak solution of chloride of lime to the ulceration, and some pills to keep the bowels regular. After the calvarium came away, at first simple dressing, then weak citrine ointment (1 part to 8), and touching the granulations once or twice a week with nitrate of silver. Good nourishing food and exercise in the open air, whenever the weather permitted, were ordered; all stimulants were strictly forbidden.

When only a portion of the bone had separated, a distinct pulsation could be seen, but when they came away entirely, I could perceive none.

Comparing these cases we find some rather inexplicable results. In two of them the injury was very similar, the situation of the wounds on the heads being very nearly alike, viz., the posterior portion of parietal bone in one, and the upper and posterior in the other. In the one which, from the nature of the case, one would have thought the greatest violence was offered, no bad symptoms showed themselves; in the other very grave ones set in.

Can it be that the young brain is more obnoxious to inflammatory attacks, as a result of accidents, than the old? Why should the cerebellum have been implicated from a blow on the top and back part of the head ?

Again, in the third case, there is an injury which *a priori* would have been judged necessarily fatal. The extensive lesion over a cavity containing so delicate an organ as the brain, complicated by a

blow, causing a fracture, the exfoliation of so large a portion of the skull, and the cicatrizing of the raw surface underneath, I believe to be unprecedented.

The entire absence from first to last of a single bad symptom.

The cure of the epilepsy of ten years duration.

A sensation of lightness and giddines which was felt after the bones came away, disappearing as the wound healed, owing to the contraction of the cicatrix, compensating for any pressure that may have been lost, is worthy of remark.

ART. XII.—*American Contributions to the Study of Cutaneous Neuroses.* By H. S. PURDON, M.D., L.R.C.P.E.; Physician Belfast Dispensary for Diseases of the Skin; Assistant Physician Belfast Charitable Infirmary, &c.

Neuroses of the Skin.—In the early part of last year a distinguished American dermatologist, Dr. Howard F. Damon, published a monograph on "Neuroses of the Skin," which work has been favourably mentioned by Dr. Brown-Séquard.

In the introductory chapter our author informs us that neuroses of the skin are caused by peculiar conditions, either of the sensitive or of the vaso-motor nerves. The sensibility of the former may be exalted or diminished to a variable extent. Spasm and paralysis are the peculiar forms of derangement of the vaso-motor nerves.

The first disease treated of is "Dermalgia," manifested in the form of tenderness, or increased sensibility to touch, and is generally confined to a limited portion of the skin. Sometimes, however, it involves the integument of one side of the body—usually the left—or even the whole skin. "The skin is either painful to the touch only, or the pain may be spontaneous and independent of contact with any sensible object. In other instances a draught of air may be sufficient to excite this pain, or the threatened contact with any material substance. Dermalgia appears to be of two kinds as regards cause—the hysteric and rheumatic. That form which is associated with hysteria is usually confined to the left side, and is often extensive; sometimes, however, only small areas of the skin are endowed with this exquisite sensibility to external impressions. These are veritable neuralgic spots. . . . . This irritation may have its origin

in unhealthy conditions of the uterine organs and the sympathetic troubles to which they give rise. When this hyperesthesia to touch is more general and of a severe character, it has been regarded as one of the indications of commencing myelitis, or of inflammation of the membranes of the spinal cord. There is a rheumatic form of dermalgia which is confined to a limited portion of the skin, and which is encountered frequently in practice. It consists in an excessive tenderness to the touch, and sometimes pain. When the latter symptom is present, alteration in the nutrition of the part speedily takes place. The skin often becomes red, and there is slight engorgement of its tissues. The tender spot occasionally occupies a portion of the integument supplied by filaments of some large cutaneous nerve. The disease appears to be due—for the most part, however—to a morbid condition of the sensory apparatus of the skin. . . . Dermalgia has been observed to be more frequent in those regions which are occupied by hairs or lanugo than elsewhere. The arrangement of the hairs upon the surface of the body corresponds somewhat with the general distribution of the cutaneous nerves."

The rheumatic variety of this painful affection is usually of an intermittent character—worse at night; and in course of time the nerves themselves appear to become implicated. It is often complicated with muscular pains.

In the treatment of dermalgia our author recommends the application of blisters, the linimentum ammoniæ, and belladonna. Internally hyoscyamus, combined with valerianate of zinc, and states that the efficacy of the valerianates has been confirmed by many practitioners, amongst whom Dr. Silas Durkee, of Boston, is specially mentioned. If the patient is sleepless he administers the bromide of potassium in very large doses, such as from thirty to sixty grains, at bed-time, and which, we are informed, quiets the nervous excitement of the patient, thereby insuring sleep. If the insomnia persists the hypodermic injection of morphia is recommended. Where there is much debility present the bromide of ammonium is to be preferred to the similar preparation of potassium.

Our author next treats of "Prurigo," and follows Willan's arrangement of this disease. With regard to prurigo senilis, it is stated that its chronicity must be attributed, in a considerable degree, to the depressing influence of age upon the nutrition of the skin. Pruritus of the vulva is often connected with diabetes. "Some writers think that in all cases of prurigo of the vulva the

urine should be tested for sugar;" and he quotes Marchal de Calvi in support of this view.

With regard to treatment, nux vomica and hyoscyamus, sulphur, syrup of the phosphate of iron, quinine, and strychnia, aconite and podophyllin, are recommended—the latter is considered an admirable remedy when constipation exists in plethoric individuals, as in the following formula:

℞. Podophyllin, gr. iv.
Leptandrin, gr. xvi.
Pulv. capsici, gr. ii.
Ext. cannab. Indicæ, gr. vi.
Div. in pil. viii.

One of the pills should be taken night and morning.

If the patient is sleepless bromide of potassium is recommended, and when the nervous system is in a state of prostration the bromide of ammonium is more suitable. I have, quite independently of Dr. Damon, tried these remedies in prurigo, as in three cases published in "Journal of Cutaneous Medicine, No. 3;" and more recently in a Paper on Prurigo, recorded in "Medical Mirror," October, 1868. I can fully endorse the favourable opinion held by Dr. Damon of the bromides. Opiates, we are told, increase the pruriginous sensations, and are contra-indicated. If anemia is present, iron especially, the tinct. ferri chlor., combined with chloride of sodium, is recommended.

Urticaria Dr. Damon looks on as a pruriginous neurosis of the skin, with an eruption of wheals; and in addition to the vascular fulness there is serous engorgement of the cellular tissue of the derma, which is produced by excessive nutrition of the cells, owing to local nervous irritation; the infiltrated serum occupies the superficial or papillary portion of the derma and the deeper layers of the epiderma. "It is rapidly absorbed into the general circulation after the more intense nervous symptoms of this affection have subsided. If the congestion has been severe or long-continued, it may be followed by a slight furfuraceous desquamation. This process is of exceedingly short duration. Some authors deny that there is any desquamation at all; but this is wholly unphilosophical. Occasionally there is a yellowish tinge left in the skin, as after other cutaneous congestions. This stain is due to the pigment of the blood corpuscles."

The chapter on "Zoster" is very full and complete, containing quotations from the works of Willan, Rayer, Cazenave, Hebra,

v. Barensprung, and E. Wilson. The author, in an appendix, records twenty-six cases of zoster of different parts of the body, and several of which were complicated with pharyngitis. A sub-variety of zoster facialis, is termed zoster buccalis; it "is situated a few lines from the outer angle of the mouth and a little above it, on the extensive anastomosis of the buccal nerves. It is circular or obliquely elliptical when extensive, the longer axis of the cluster being in the course of the nervous twigs which supply the angle of the mouth and the integument of the chin."

The chapter on "Anesthesia" contains: Ataxie Locomotrice in its Relation to Cutaneous Anesthesia; and also a translation from Topinard's work on the same subject. Hysterical anodynia, syphilis, pellagra, acrodynia, and spedalskhed, are concisely and briefly reviewed. At page 86 our author informs us that "the external causes of insensibility of the skin are quite numerous; the following only need be mentioned:—the disease or injury of nerves, neuromata, pressure of exudations on cutaneous nerves, the effects of chemical agents, and of heat and cold. The internal causes of anesthesia of the skin are diseases of the brain and its membranes, and also of the spinal cord, pressure from extravasation upon the nervous centres, the effects of metallic poisons upon the system, and many chronic diseases which produce alteration in the blood and tissues."

In acrodynia we are informed that the lesions of the nervous centres are similar to those of pellagra. "The general conditions which give rise to these diseases are poor food, mental depression, and unremitting toil. Ergot of rye, when this cereal is an almost exclusive article of diet, produces contraction of the blood-vessels of the spinal cord and its membranes, and a consequent diminution in the nutrition and functions of these parts." This fact has been made use of by practitioners in the treatment of herpes zoster, &c. In "spedalskhed" the anesthesia occurs first in limited patches on the skin, attended by structural changes in the parts affected; but it afterwards becomes more general, until the entire skin is attacked. The gait is unsteady on account of the loss of sensibility in the soles of the feet to touch and to pressure. It may be interesting to mention that Dr. Fred. Lente, of New York, in a paper on "Medical Notes on the Island of Jamaica" (*Medical Mirror*, December, 1868, page 743), informs us that "leprosy" is very common in that island, and it usually commences by neuralgic pains; but these, after a time, disappear, and an anesthetic condition

ensues. There is no inflammatory stage, and the anesthesia soon becomes so complete that the extremities often sustain serious burns before the patient is aware that anything amiss is going on. Dr. Bowerbanke, of Jamaica, pointed out to Dr. Lente various mental conditions of the lepers, and has noticed the existence of buboes below Poupart's ligament as occasionally occurring in these individuals.

The treatment of anesthesia is unsatisfactory, and depends upon the cause of the disease. "When it is produced by certain diseases which act through the medium of the blood, causing profound alterations in this fluid and its effects upon the nutrition of the nervous centres, our chief reliance is to be placed in the different preparations of iron, of quinine, and in the mineral acids. A tonic regimen must be subjoined to these remedial measures."

ART. XIII.—*Has the Law of Natural Selection by Survival of the Fittest failed in the Case of Man?* By LAWSON TAIT, Fellow of the Anthropological Society of London, &c.

THE science of Anthropology is one of such deep interest to all, and of such paramount importance to the members of the medical profession specially, including as it does their every aim and object, that I offer no apology for introducing the following remarks into the columns of the *Dublin Quarterly*:—

In the September number of *Fraser's Magazine* appears a thoughtfully-written article "On the failure of 'Natural Selection' in the Case of Man." It concludes with this paragraph:—

"Medical science is mitigating suffering, and achieving some success in its warfare against disease; but at the same time it enables the diseased to live. It controls and sometimes half cures the maladies that spring from profligacy and excess, but in doing so it encourages both, by stepping in between the cause and its consequences, and saving them from their natural and deterring penalties. It reduces the aggregate mortality by sanitary improvements and precautions; but those whom it saves from dying prematurely, it preserves to propagate dismal and imperfect lives. In our complicated modern communities a race is being run between moral and mental enlightenment, and the deterioration of the physical constitution through the defeasance of the law of natural selection; and on the issues of that race the destinies of humanity depend."

Such a line of argument as this is one which makes us pause, and at first sight it gives rise to very conflicting emotions. Is our noble profession, is all our hard work, battling against what we may term the first law of nature, only to be beaten by it? or must we get a little further from the surface before we can bring about a reconciliation, and are we likely to find one? Such were my thoughts as I read and re-read the article in question; and in recording them I do not for a moment imagine that my crude ideas and limited powers of investigation will clear up the matter; my only hope is that the attention of those more worthy to deal with the question may be drawn to it. In considering this matter I take as postulates the law of natural selection, and its corollary the correlation of growth; and I assume that the earliest Anthropoids were the men of the Drift—at least the earliest true Anthropoids with which we are yet acquainted.

When we examine calmly, all prejudice apart, the difference between man and all other animals, we find that it is constituted principally by his greater powers of *comparison* and *combination*. These are shared to a certain extent and in certain instances by the lower animals; as for example, combination is seen when wolves, dogs, or jackals combine in packs to hunt one individual animal of another species, who, if matched to one of the attackers, might easily overcome him; but they are pre-eminently the characteristics of mankind. There seems, however, to have been a period in the development of the human race when these powers were of such a low kind as that they could scarcely be said to exist. If we take a Drift implement from the valley of the Somme and place it along with one from Hoxne; or still better, one from the laterite bed of Madras, where they have been found in such prodigious numbers by Mr. Bruce Foote and others, it would be extremely difficult to point out the slightest difference between them. It is true that the European implement is generally of flint and the Madras specimen of quartzite; but this is not an essential point, nor one even of importance, for European implements have been found of quartzite, and generally the material is that which is most convenient in the special locality. It is the manufacture and style which are the important points, and we find that the size, shape, and method of chip are in all cases similar. The implements would seem to have been used either in the hand for striking, or for throwing at the object opposed. Here we have the earliest instance of an animal with a distinct artificial armoury; and while it is evident that the powers of observation (as

instanced in the fact that the weapons must have been used to produce wounds) were of a tolerably high order, yet that the powers of comparison must have been of an extremely low order, from the extensive use into which the weapons were brought, and the probably immense period of time during which they were in use, and before a variety and consequent improvement in their manufacture took place. Again, the power of combination must have been low, for although it is more than likely that the people who used these ancient stone weapons were combined in the pursuit of, or defence from, the enormous animals with which they were surrounded, yet it is almost certain that every man would be his own armourer, servilely imitating the rude stone he saw in the hands of his fellow savages. Thus an almost perfect physical and psychical equality would exist in this early race, such as the world has not since beheld; and up to the end of the Drift period one might say that the method by which the law of natural selection was applied to them, was similar to that which operated on their surroundings.

The power of comparison would seem to have been the earlier to be cultivated of the two mentioned; and this would be brought about when a community or tribe saw that the chipped stones of one or more of their number flew further, and struck a deeper, wider, or more fatal wound than the implements in general use. Then the earliest barter might be introduced by the lucky manufacturer making a fortune in skins, received in exchange for his superior flints; and here we have the first germ laid of the great principle of the *division of labour*. As the manufacturer was encouraged to improve his art by being relieved from the necessity for joining the hunt for his daily flesh, he would give origin to a combination for the common good—the first idea of social life. Why do men live in political and civil societies? Because man is a social being. Why are men social beings? Because they require the help of each other, being physically and psychically variegated in constitution from each other, both as races and individuals. Were all men equal in mental and physical energy, no one would be able or willing to help another, for every man would be everything to himself; and mankind would thus remain for ever savages, without the slightest prospect of advance. In support of what I say I may quote from the "Sketches of the Philosophy of Life," by Sir T. C. Morgan, F.R.C.P.:—"Equality is a physical impossibility, since men not only differ amongst each other generally, but age and sex occasion most important variations in physical force, mental acuteness, and

manual dexterity. When forces are thus unequal, equality of power cannot exist." The work quoted, along with the "Sketches of the Philosophy of Morals," were written about 1820, forty years too soon to be appreciated; and were they known among scientific men as they ought to be we should be less frequently troubled by exploded theories and reintroductions of what is already well known. As we have just seen, it was because men were developed from this state of equality that they ever became civilized; and we may condemn then the idea of perfect or even moderate equality among mankind as the mere dream of a visionary and the greatest misfortune that could happen us. That this theory of the development of inequality, in the way mentioned, is more than a mere fancy might be shown by abundance of proof, enough to fill many columns. It meets our eye readily, however, in the instance of the Indian arrow-makers, who are protected and provided for by their tribe, and have immense respect paid to them, while they in their turn rigidly preserve secret the art they practice. Indeed we need not go out of the boundaries of Britain to find instances to this point. In the island of Lewis we have a relict of the stone-age in a pottery made in the parish of Barvas, of a peculiar red clay, glazed with milk.[a] It is made into vessels of considerable delicacy, some even with pretensions to elegance. There is no doubt a considerable amount of dexterity displayed in the manufacture of a tea-set in my possession, and the method of working is rigidly preserved a secret

[a] In Schoolcraft's "History, Condition, and Prospects of the Indian Tribes of the United States," III., 75 :—"It is very clear that the art of the potter with these races was a 'fixed art,' and the occupation of a particular class of this people. A hunter or a warrior could not lay aside his bow or his club and set to work to make pottery. The art of mixing clay with gravel, so that a vessel does not change its form in burning, and bears a sudden transition from heat to cold, and *vice versâ*, presupposes, when successfully carried on, uncommon practice and long experience. Much less could the general population manufacture flint implements of really good quality. Splitting the flints, and making the fragments into the shape of lance and arrow heads, knives, and saws, requires extraordinary ability and long practice. Amongst the primeval inhabitants of North America there was a peculiar class of people whose business it was to select the suitable stones and manufacture arrow heads, and who received from the hunters flesh and skins in payment for the implements supplied to them."

"Dr. Keller's Swiss Lake Dwellings," trans. by J. E. Lee, p. 365 :—"A consideration of the earthen vessels discovered leads to the impression that the manufacture of earthenware vessels formed a particular occupation, and that it was exclusively carried on by individual settlers. The working, form, ornamentation, and the mode in which they were burnt, show, in the opinion of those conversant with the art, such a degree of ability and proficiency that only those individuals who devoted themselves exclusively to this work could produce such wares as we now see before us."

by the family of the old Celtic woman who was the maker. In Italy we find the same fact as recorded by Gastaldi in his work on the pre-historic remains of Italy. The heaps of chips belonging to the Palaeolithic age, found in Denmark and elsewhere, show clearly that what the Indians, now existing in a stone-age, have as customs our European ancestors had likewise.

The rise, progress, and influence of the principle of the *division of labour* I need not, if I could, trace; each one has only to regard his next door neighbour to see its effects. Concomitant with it, we may rest assured, were developed the powers of comparison and combination.

Here, then, we have a point from which we may date the growth of *intellect* as contrasted with instinct or crude reason, shown in the development of the powers of comparison and combination: for observation, through memory, constituting ideas, the comparison and combination[a] of these produce reason (according to a simple analysis.) Up to this point the law of natural selection has acted as it does throughout the rest of nature, and it does so subsequently too, but not in a manner quite so evident; and to this consideration of the difference this somewhat lengthy introduction tends.

At this point the *struggle for existence*, and its invariable law of selection, has brought a vertebrate animal into an upright position, still struggling with his fellow vertebrates, but now with a stone in his hand. After the date alluded to the struggle with the other species continues, but then begins that with his own, the like of which we find in no other kind of animal. For this his weapons increase in effectiveness, his powers of comparison and combination increase; and while they do so at a slow rate, his powers of killing his fellow-man, and his inclination to do so, are sufficient for the purposes of our law. Hence we find in the remains of Archaic man few or no traces of disease. Such traces must be rare, as I have never seen a single instance of diseased bone in the many that I have examined for the purpose, and have not even met with a notice of such a circumstance. I have seen, in the possession of M. Broca, a skull with appearances much resembling the effects of chronic periostitis; but Professor Busk assured me that it was stalactite, and M. Broca agreed with him. Besides most (nearly all until we come to the late stone-age)

[a] It may be objected here that I use this word somewhat with the liberty of an "undistributed term," but I think that a slight consideration will show that this is done only with the view of avoiding repetition, and of saving space.

of the remains are those of individuals of an age not far advanced in life. I have only once seen an edentulous lower jaw from a stone-age burial, which I myself found in Sutherland, where the use of stone weapons was continued perhaps to a period not remote from the Christian era.

When, however, civilization grew so that murder and war grew less frequent, as they would by degrees, then the struggle for existence necessitated a new condition, and disease slowly crept in upon mankind; arising, as it would, from many causes produced in their turn by advancing civilization.

Our knowledge of diseases, and the processes of their occurrence, is not sufficiently advanced yet to allow of the absolute recognition of the law of selection in them. We can as yet only see its action on individuals; but, although Morgan, Quetelet, Winslow, Buckle and others, have opened out the way by which we shall, sooner or later, recognize its working on societies of our race, the adequate understanding of it has not yet been arrived at.

We may take, however, as an illustration of how the law necessitates the introduction of disease among civilized animals, the instance of struma and its firm ally, phthisis. Suppose that in the Drift period a few individuals were born amongst a tribe, with narrow chests, deficient in cubic capacity, the law of natural selection would weed them out by cutting off the food supply; but suppose civilization gradually to be advancing from that point, we should find that fewer and fewer of these unfortunates would die, as they might make sure of their food by the help of some of their fellow-beings. The weak-chested ones would help their stronger brethren, by confining themselves to some occupation where violent physical exercise was not so necessary as in the case of hunting. In fact, there would occur, to a limited extent, exactly what occurs now among the lower orders, where a weakly child is always put to some sedentary occupation—generally the worst fate that can befal him. Suppose a male and female of these deformed instances to mate, they would, of course, reproduce their peculiarity to a greater extent; and if the tribe in which they existed were small in number, it would require no great length of time to produce a variety with a tendency to chest disease. Then, from the fact that advancing civilization necessitated less and less the violent destruction of mankind—a destruction which would naturally fall principally on those least fit for survival—there would be propagated a certain number of the population least fit to survive disease; this number

continually increasing, as likewise would the intensity of the tendency to the disease.

Suppose, then, a sudden alteration of temperature to occur, the poorest of the population, that is the oldest and the youngest, would be least prepared to resist it, a certain number of them would die, while the rest would continue to propagate the condition. But mark how the tendency would be, in great measure, checked by the death of the young of the diseased and poor class—a fact which is constantly before our eyes now. How the law of natural selection works to prevent the over-action even of its own agent; exactly as it does when the lion over-eats the antelope, and, therefore, makes his own kind scarce. But if the lion were to disappear, the antelope would, by disproportionately increasing, not only destroy its own kind but many others, both vegetal and animal. The death of weakly men, by disease, is merely a substitution for their violent death under more barbarous circumstances, and it is modified by the ratio between the food supply and the population.

We know that there exists a constant and never-varying ratio between the price of corn and the number of marriages. When food is cheap, the population increases, and disease is less rampant; when food is dear, precisely the reverse occurs—fewer marriages, and far more disease.

In our country the instance of phthisical and strumous diseases is a particularly happy one; because we know that all forms of them, and all diseased conditions with which they are intimately allied (more especially insanity),[a] are steadily on the increase.

Along with our advanced civilization, there has occurred, not necessarily in connexion with it but possibly so, an alteration of climate, which has had a very great influence on those less fit for survival, by reason of pulmonary debility. We know that ever since the Roman occupancy, and probably for some considerable time anterior to that period, we have been losing, to some extent, our insular character; that is, the sea has been retiring from our coast. We know that, in the eleventh century, the Castle of Norwich stood on an arm of the sea; and that at Legeolium, and the Antonine Wall, the water was at a considerably greater elevation during the Roman period than it is now. During the thirteenth century, the vine grew freely, and produced fruit

[a] See Clouston's Papers; Journal of Mental Science, 1863; Transactions of Med. Chir. Soc. Edin., &c., &c.

in the open air in parts of England,[a] where it would scarcely put out leaves now. We know that those storms, which have been so violent and so general as to attract frequent notice, have been gradually increasing in frequency, from the eleventh century, in a ratio which is not altogether explained by the probability of more notice being taken of them as the tendency increased for observation of natural phenomena. It seems, also, to be a recognized fact, that the average rainfall, in Europe, is steadily increasing, year by year. Le Hon[b] gives for Belgium the rainfall of the month of May for four years:—

1842	. . .	49·52 milimetres
1843	. . .	52·83 „
1844	. . .	81·04 „
1845	. . .	106·09 „

We know that the northern ice-cap is slowly increasing—has rendered the larger part of Iceland totally uninhabitable—the Alpine and Norwegian glaciers grow every year, and Greenland is rapidly disappearing. In fact, the conditions, unfavourable to the class of cases instanced, are becoming more persistent as our climate becomes less temperate.

Then there is the other condition: war becomes of more and more seldom occurrence, and every improvement of armoury—every triumph of the division of labour—makes it less fatal.

Thus, it follows that the less war, the more pestilence; the greater the civilization, the more terrible the disease. This accounts for the fearful mortality which ensues among our autocthonous and savage people, when infected by the diseases of a race much their superior in civilization. Could a better instance be given than in the case of the Micmac Indians, annihilated by a single attack of small-pox?[c] Does it not account for the fact, that every century seems to have an epidemic more terrible than the epidemic of the century preceding, apparently in the same ratio as the difference of the condition of the people of the centuries in point of progress in civilization? Does it not

[a] Periodicities des Défriges. Adhemar: Paris, 1867.

[b] Harmonies de la Mer.

[c] The experience of the surgeons in charge of coloured troops during the late war, as shown in the Report of the Surveyor-General, shows that while the negroes were not less likely, in the instance of any disease, to be attacked than the whites, that in the cases of scarlet fever, measles, and pulmonary diseases, they suffered to a much greater extent. (See the papers on the Cause of Camp Diseases, edited by Austin Flint).

account for the fact that no sooner has science overcome one epidemic, than another, far more formidable, makes its appearance? Did not the Elizabethan epidemic of ague give way before Jesuit's bark, drainage and tree-planting, only to be superseded by the more terrible small-pox? This, in its turn, has almost succumbed before the genius of the immortal Jenner, only in its turn to give way to the horrible cholera. Is it fair, under such circumstances, to accuse the medical profession of having stood still since the days of Hippocrates?[a] or need we be surprised at the evidence before us all of the existence of a change of type of something—be it of disease, or be it of human constitution? It would seem, and I believe it to be, a dream to imagine that we can ever eradicate disease as an entity; nor do I believe (unless under the circumstances of a millenium, of which the prospect is faint,) that it would be an advantage to our kind that we should. But, for all this, are we to give up our scientific pursuits, our hard-working, practical medicine? Certainly not. For, let us see what would happen in either case: if we eradicated disease, the chances of life and death being equal, beings of an equal calibre, in every respect, would be produced; on the other hand, if we gave up the treatment, and prevention of disease, the same condition would be brought about, and in a shorter time, and, of course, with a residue of population infinitely less in numerical strength than there would be under the action of the former hypothesis; and this, having reached the phase of individual equality, would soon increase to the dimensions of the other supposed condition. The result would, consequently, be equal in either case; namely, that the struggle for existence would be so intense, with no advantage to any individual, that there would be a perfect and general dead-lock, and an equally perfect and general destruction of mankind. Therefore, we must continue to suffer disease, and we must equally continue to study and treat it with the knowledge of the fact that, Syscophus-like, we can only roll the stone nearly to the top, and then see it roll down again.

In this manner, I believe, this great law acts on man; but if its action is more complicated than elsewhere, it is not the less in existence. For the same reason that science keeps a check on the ravages of disease, and so prevents the establishment of equality, so the protection of property for those who, in the words of the writer in *Fraser*, "Never could themselves have acquired property

[a] Sir William Hamilton.

by industry, or conquered it by courage, or kept it by strength or ingenuity, and who are utterly incompetent to use it well, are yet enabled by law to inherit and retain it"—for the same reason it is retained to those that there may be an inequality. For by the very fact that they are unable to use it properly, it passes at a greater or less speed from them to get into the hands of others, who, for the time, get it by their superiority in the struggle for existence; the descendants of the latter in their turn degenerating, the process is again repeated. The accumulation of property inherited under protection merely forms magazines of the material by which the struggle for existence is kept up, and from which it is distributed to the "fittest for survival."

Thus it is of necessity that the law of entail is now impracticable. An entail cannot now be made, rendering as it would, the struggle for existence a hopeless and impossible one, by shutting up the storehouses, save to access by a privileged few. We find in the small remnants of the old aristocratic families of the land which are now left us, much of that fine animal courage for which our Norman invaders were marked; but this is merely a racial peculiarity, which is always strongly inherited. But how seldom do we hear of the son of a great general, or of a great politician, following in his father's footsteps; still less frequently are the talents communicated to more distant descendants. It is because the success of the original member of the family has put his immediate posterity beyond the necessity for entering the arena of the struggle for existence. Hence they disturb equality, and give way to others more fitted for the struggle, only holding on till they are pushed off the stage. Can we look at the political history of our country for the last two centuries without seeing it crowded with instances? Do not even now the Wellingtons and Marlboroughs give way to and rank far below Gladstone and Disraeli? We shall find, and that I believe before long, that a system of life peerages, which must be introduced, will push the *ancienne noblesse* to the wall, as surely as the Saxon has destroyed the Tasmanian—when those who, in the struggle for existence, have obtained the first rank in law, medicine, in all the arts and manufactures, will form one Upper House of Appeal.

On the other hand: "In a natural state of society they would have been pushed out of existence, jostled aside in the struggle and the race, and left by the way to die;" but this cannot, and must not

take place now. For, suppose that there was no protection for property, might would again be right in its fullest meaning, and we should recur to our original savage condition. Or, suppose that there was protection for, but no inheritance of property, to whom would the property go? Putting aside the consideration of the impracticability of a general division at each decease, and suppose that the property went to a central government as *haeres communis*, this condition would have one of two results, either the seizure of the whole, and its retention by what would become an oppressive oligarchy, or there would be a necessity for the establishment of jubilees, for the purpose of the distribution of the accumulated wealth. In the intervals between such distributions, and more especially towards the close of the interval, the struggle for existence could be carried on by barely one-half of a population, on account of the drain of the material, and disease and famine would be rampant; while, for long after the distribution, there would be an utter stagnation from surfeit, and until some inequality came about by the old process of accumulation by some, and loss by others.

Thus, we see that there cannot and must not be anything like an equality, either in health or property.

The writer in *Fraser's* apparently would select (as breeders do with animals) "till all the human race, both in its manhood and its womanhood, became a glorious congregation of saints; till we were all Blondins, all Shakespeares, Pericles, Socrates, Columbuses, and Fenelons." Apart from the consideration that the very law we are considering—the law acting by *variation*—would utterly prevent such a condition being attained, or at least retained, one might ask, suppose it could be arrived at, *cui bono? to whom would it be for a good?* Certainly not to the people concerned (we are considering them with special reference to their individuality, not in relation to their existence as a race or races; although even then, since the author quoted imagines this alteration for the whole human race, what I say would hold good); for the very idea of *good* implies comparison. If all were equal we could predicate of none that it was *good* for them, or *evil*, for there could be no contrast. Could *then* any one Shakespeare benefit in the least his brother (and sister) Shakespeares? or would there be the least occasion for the athletism of a Blondin when all were Blondins, and were to remain equally so? Could the religion of a Fenelon be of service to his neighbours when they could equal him in their sentiments and powers? We must answer in the negative; for to entertain such

propositions would be to predicate *finity*, and of this we can form as little conception as of *infinity*. Besides, could all this power be called into existence only to die off for want of exercise?

I believe then that I may sum up by saying, that when an animal becomes erect, and begins to appreciate the principle of the division of labour, then begins its development in domestication, its tendency to protection of individual rights, and an increase of its tendency to disease; and with the latter I am certain that there is a correlation in the development of the *Xanthocroic physique;* for Darwin tells us that white terriers suffer more from fatal distemper than others, and that white chickens are more liable to the *gapes* than those of other colours; indeed, that under domestication light coloured animals generally suffer most from disease, and from parasites.

We also are well aware of the fact that savage nations are comparatively very free from disease until contaminated by a superior race, when all at once the virgin soil is covered by the weeds. We also know that in direct ratio to the degree of civilization, or more properly domestication, is the severity of the disease, the average age to which the people live, and the number of births. Among domestic animals the most fertile is the sheep, and it is the most diseased.

Finally, that to whatever elevated rank mankind may attain in development, it is essential that there shall be individual inequality.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON SYPHILIS.

1. *The Pathology and Treatment of Syphilis, Chancroid Ulcers, and their Complications.* By JOHN K. BARTON, M.D. (Dub.), F.R.C.S.I.; Surgeon to the Adelaide Hospital; Lecturer in Surgery Ledwich School of Medicine; Visiting Surgeon Convalescent Home; late University Anatomist; Pathological Society's Gold Medallist, 1852. Dublin: Fannin and Co. 1868. 8vo, pp. 316.

2. *Syphilis and Local Contagious Disorders.* By BERKELEY HILL, M.B., Lond., F.R.C.S.; Assistant Surgeon University College Hospital; and Surgeon to Out-patients at the Lock Hospital. London: James Walton. 1868. 8vo, pp. 505.

3. *A Treatise on Syphilis, Historical and Practical.* By Dr. E. LAUNCEREAUX, Head of the Clinical Department of the Faculty of Medicine in Paris. In Two Volumes. Vol. I. Translated by G. WHITLEY, M.D. The New Sydenham Society. London. 1868. 8vo, pp. 405.

4. *Cases of Disease of the Nervous System in Patients, the Subjects of Inherited Syphilis.* By J. HUGHLINGS-JACKSON, M.D., F.R.C.P. London: John Churchill. Pp. 22.

5. *Visceral and Hereditary Syphilis.* By F. OPPERT, M.D., M.R.C.P.L.; Physician to the City Dispensary, &c. London: John Churchill and Sons. 1868. Post 8vo, pp. 100.

FOR many years we have viewed with extreme interest the progress of our knowledge of syphilis; at the present day, though much remains unknown or doubtful to stimulate the industry and reward the labour of future inquirers, we can point to our acquaintance with this disease as full of encouragement to us in our efforts to

attain clear views of pathology. Presenting intrinsic difficulties of no ordinary kind, the subject of syphilis had been rendered still more obscure by theories which had so long held possession of the minds of our foremost men that they reached us sanctioned by their continued acquiescence, and we did not venture to question their correctness, a correctness too, which some facts seemed unquestionably to establish, while others seemed as unquestionably to invalidate. Out of this chaos has arisen precise and accurate knowledge, and this has been attained, not by any fortuitous circumstance, but by many earnest workers collecting facts with diligence and severe scrutiny, and analysing them with care and patience; nor has our science advanced more rapidly than our art. Guided by a more exact knowledge we have learned to avoid the mischievous methods of treatment which were formerly in fashion, and to use against the disease the principal remedies we have so long possessed with discrimination and certainty; nor is it only on these grounds that the study should interest us, supplied now with the thread which enables us to follow the malady through its varied and successively evolved manifestations, we have suggested to us the probable course of analogous diseases, and feel that we are getting glimpses of a truer pathology. Such being the case, we have no hesitation in saying that the physician or surgeon who continues to undertake the treatment of venereal diseases, ignorant of the recent advances in our knowledge of them, incurs a grave and serious responsibility, and we therefore place first among our reviews in the present number a notice of the valuable works which stand at the head of this article.

Dr. Barton devotes his first chapter to a brief but lucid sketch of the progress of the investigation, in the hands of various distinguished observers, till, by the gradual accumulation of facts, it was at last ascertained with such certainty that few now doubt it that there are two specifically distinct sores communicable by impure sexual intercourse, the one capable of producing more or less local annoyance and even serious loss of tissue, but possessing, under no circumstances, the power of contaminating the rest of the body, and curable by local treatment; the other commonly productive of less local injury, but surely followed by symptoms which prove that the whole system is poisoned and amenable only to constitutional remedies. With great justice, however, he reminds his readers that it is only by making themselves familiar with *all* the features of the sores produced by each poison, that they can hope to be able

accuratately to distinguish them. At the root of the whole matter indeed lies the question of the duality of the chancrous virus, and we cannot but attach the greatest weight to the independent testimony of the author, who, possessing an ample field of observation, has taken time maturely to consider his conclusion.

"Several years ago," he says, "I determined to test by observation the view then confidently put forward, that the soft sore was never followed by any secondary disease whatever. At this time I held the opinion that the soft sore was as truly syphilitic as the indurated chancre, but that it preceded a milder form of secondary disease; and it was with a view of publishing the results of my observations that I noted every case both of primary and secondary symptoms which came under my notice for an entire year. The out-patients at the hospital, who are seen daily, and number nearly a hundred, afforded ample field for this. It was necessary, in order to prove my views correct, that I must have at least one case of distinctly-marked characteristic soft sore, standing undeniably as the initial lesion of secondary syphilis. I met with no such case either during that or any subsequent year. In the great majority of cases I found induration more or less marked in those chancres which were followed by secondary symptoms. In some, however, there was no induration, the sore was quite soft; but in all other respects it was like the indurated, and unlike the simple sore. In particular, I found the state of the inguinal glands a safe guide, they never presented the peculiar indurated, sluggish enlargement, except with the infecting chancre. From the experience thus gained, I was obliged to give up the idea that the soft or simple suppurating sore was syphilitic at all, and conclude that the two sores were distinct, the one a local disease, the other a symptom of a general infection of the system. At the same time I admit that induration is not a certain or constant sign of the syphilitic sore; which, however, although without induration, is quite unlike the true suppurating or simple sore. The absence of induration is frequently caused by the patient having taken some mercury previously to our examination of him, or by merely the lapse of time; six weeks or two months, in some cases, will suffice to remove induration. Allowing for these, in the great majority of chancres which are followed by secondary syphilis, induration more or less marked may be noticed; and in the remaining few, when the sign is wanting, other symptoms remain which indicate the true nature of the sore."

In the second chapter Dr. Barton describes very carefully the characteristics of the simple venereal ulcer, the sore which is local incapable of affecting the system, and, except when some complication arises, amenable to topical treatment; in the third are noticed the various complications of the local sore, several of which are trouble-

some, and one at least of which, phagadena, is perilous, the appropriate treatment of the sore, and of its accidents being minutely explained; at page 54 is detailed a case of that most serious complication, phagadenic bubo, which forcibly illustrates the lamentable results of improper management on the one hand, and, on the other, the happy effect of energetic and skilful treatment.

Having thus cleared the way, the author devotes the remainder of his work to the consideration of syphilis. We commend the fourth chapter to the perusal of our readers; in it he gives an account of the natural course of the disease; this we consider a most important subject, for we believe that not only are various diseased conditions, which could be readily controlled by specific treatment, allowed frequently to go on unchecked, their syphilitic nature being unrecognized, but we have seen lamentable instances of patients being submitted to a mercurial course, for which their constitution was unsuited, with the expectation of removing symptoms which any one familiar with the order of evolution and characteristic features of syphilitic phenomena, would never have attributed to that poison.

Some years ago it was held that the disease could not be communicated by secondary eruptions. It is said that a distinguished French surgeon, with that demonstrative enthusiasm which our brilliant neighbours display, was in the habit, in presence of his class, of kissing patients whose faces were covered with a syphilide, to show his disbelief in the infecting power of the secondary phenomena. This dangerous doctrine has now, we believe, no supporter; yet we cannot help quoting one of Dr. Barton's cases to show the necessity of warning syphilitic patients of the danger to which they may thoughtlessly expose their friends.

"A respectable married woman, of middle age, presented herself amongst the patients attending the Adelaide Hospital Dispensary, in November, 1866. She exhibited unmistakable signs of syphilis in its secondary stage, one of the most prominent symptoms being condylomatous sores at the corners of the mouth, and on the tongue and throat. At this time she had four children, all healthy, the youngest being about two years old. She had received the infection about six months previously from her husband. Placed upon suitable treatment, her symptoms soon got better, and she ceased to attend. About six months afterwards, however, she called upon me, bringing her youngest child, a boy of two and a half years of age, who, she stated, had begun to fall away in flesh and strength very much during the last month. Upon examining the

child, I found well-marked condylomata of the lips, falling out of the hair, and other syphilitic symptoms. The mother stated that her own lips had been from time to time during the past six months affected with the ulcers which had been cured at the hospital, and that she feared she had given the disease to the child, either by kissing it, or by his using her spoon. This child improved under mercurial treatment. It was, however, carried out but very imperfectly, and the condylomata of the lips were constantly recurring. In about six months after the disease showed itself in this child, an elder brother, a boy about eight years of age, was brought to me with a well-marked syphilitic sore on the lower lip, and indurated glands under the jaw. The mother at this time showed no signs of the disease; and the younger child was much improved in general health, but had still sores at the mouth. The boy last affected looked pale and sick, and has since suffered from well-marked symptoms of secondary syphilis. Upon being questioned, the mother stated that all the children used the same mugs and spoons. The father, the author of the infection, I had no opportunity of examining."

In the fifth chapter the author describes with care and minuteness the first stage of syphilis, the initial lesion of the constitutional malady, the true syphilitic chancre which presents itself under two forms, differing not in kind but in degree, the Hunterian or deep, and the superficial. In the sixth we have an account of the premonitory fever which ushers in the second stage of the disease, and of the symptoms of that stage, the falling of the hair, the enlargement of the lymphatic glands, the eruptions on the skin, the affections of the throat and eyes. With the termination of the second stage the malady is sometimes at an end, but such too often is not the case, and the various phenomena, the leading pathological character of which consists in the deposition in the tissues of syphilitic lymph, which have been recognized as constituting the third stage, are liable to occur. In treating of these, which he does in the seventh and eighth chapters, at the length which their importance demands, Dr. Barton adopts a classification of them which, for practical purposes, has much to commend it.

"A subdivision of the long array of these symptoms," he says, "founded upon the time when they appear, is impossible, inasmuch as they observe no constant order, or approach to order; but a pathological distinction exists in the character of the deposit, which may suitably form the basis of a subdivision, especially as this difference is found to mark a corresponding change in the general state of the patient, and will be found to indicate the necessity of a different line of treatment. Hence

the symptoms of the third stage will now be considered under the two following classes:—

"1st. Those characterized by the deposit of hard contractile lymph, which are usually the earliest to appear, and may, in contradistinction to the second, be called sthenic.

"2nd. Those characterized by the deposit of a soft, gummy material, which usually are later in their appearance, and may be termed asthenic.

"The symptoms included under the first of these divisions may be classed as follow:—

"1st. Deposits in the skin, forming cutaneous eruptions.

"2nd. Deposits in the mucous membranes, giving rise to ulceration and contraction of the pharynx, larynx, bronchia, intestinal tract, &c.

"3rd. Deposits in glands and other viscera, such as the testicles, liver, spleen, lungs, &c.

"4th. Deposits in the nervous system, *i.e.*, brain, spinal cord, and nerves."

Having given an excellent description of the symptoms caused by lymphy deposits in these various tissues, he proceeds to the second great class of tertiary phenomena, that constituted by deposits in the cellular and submucous tissue, in the muscles, tendons, and fasciæ, in the bone and periosteum. Before entering on an account of them, he says:—

"It is necessary to explain, that all the symptoms of the tertiary stage may present this character—the gummy, instead of the lymphy, deposit being found in the skin, testicles, liver, brain, &c., as well as appearing in the lesions now to be described. But in the case of those we have already examined, this is not the ordinary, but the exceptional kind of deposit; while in the symptoms about to be described, it is the rule, and the fibro-plastic deposit the exception. In the testicle, for example, as already explained, the ordinary characters of syphilitic sarcocele, are, as its name implies, those of a hard, fleshy tumour, whose natural progress is to go on to contraction, and consequent atrophy of the gland; occasionally, however, a tubercular form of the disease is met with, which goes on to suppuration and the formation of a slough. All will admit that this latter is the exception, the firmer kind of deposit being the rule. On the other hand, we find the cellular node, or gummatous tumour of the cellular tissue, as a rule, always produces a slough—a hard, fibrous tumour, which does not slough, being here very rarely met with; so that, while admitting that all the deposits which take place during the tertiary stage may, under the varying influences of individual health and habits, present either kind of deposit, we may safely conclude, at the same time,

that in lesions of certain tissues we have, as a rule, the fibro-plastic deposit, while in those of others, in the great majority of cases, we will find the gummy matter laid down. That syphilitic affections of the viscera belong, in the majority of cases, to the former division, is proved by the records of numerous *post mortem* examinations of such cases, which have been made by competent observers. Of the other symptoms described in the last chapter there can be no difference of opinion. Between this group, then, and that of the symptoms yet remaining, there is no marked line of demarcation, nor does any necessary period of time elapse before these later phenomena appear. They are produced, in some cases, very soon after the secondary period—not for many years in others—and not at all very often; but whenever they do appear, they mark a decline in the vigour of the morbid processes, arising not so much from the length of time during which the poison has been in the system, as from a failure of the vigour or vitality of the system itself, thus, in many cases, a tubercular eruption, sarcocele, or visceral disease, comes on when ten or more years have passed since infection; these symptoms still presenting the same characteristic hard, fibro-plastic deposit which they show at an earlier period; and, on the other hand, the lesions characterized by the gummy deposit may appear within a year or two after infection, and present then, as if developed later, the same want of vigour, and accompanied by the same want of vitality in the system. Hence patients of a strumous diathesis quickly produce these latter symptoms; and, indeed, it is in such that we meet with the most terrible examples of their destructive character. These symptoms have been called *sequelæ*, in reference to the analogy they bear to the lesions known under this name, which come on after scarlatina and other fevers. In employing this name, we must guard against the idea, which might be suggested by it, that they have in any degree lost their syphilitic character: although their production is influenced by the constitution of the patient, yet they are as truly characteristic of syphilis as are any of the lesions already described."

With the opinion expressed in this extract we entirely concur, and consider the distinction which the author makes as of the first importance in determining the treatment to be adopted. Alike important to the physician and the surgeon, we cannot too strongly urge the attentive perusal of these chapters, containing as they do a succinct account of the many and valuable additions to our knowledge of the late phenomena of syphilis, more particularly the visceral lesions, which we owe to the investigations of the last few years.

When we inform our readers that Dr. Barton devotes seventy-

one pages to the subject of treatment, we need hardly say that he is not an advocate of the so-called expectant method; on the contrary, recognizing the power, both for good and ill, of the drugs which have been used against syphilis, he appraises them, we think, at their true value, and lays down wise rules for their use. He explains the indications and contra-indications for the employment of mercury, which he recommends as generally necessary in the first and second stage of the disease, though with Ricord he believes its action is limited to causing the disappearance of the symptoms present when it is administered, and that it cannot be considered capable of neutralizing the poison. He lays great stress on its gradual introduction into the system, and in common with Colles, Brodie, and Sigmund, prefers that this should be effected by inunction.

"The patient's diet and daily habits should in the first place be regulated; the former should consist of meat once daily, without any stimulants beyond beer or porter, sometimes better without any at all. He should keep regular and early hours, going to his bed not later than ten o'clock, and not rising before eight in the morning; during the day he may be engaged in business, if it be not of a laborious or exciting description. Half a drachm of the ung. hyd. fort. should be rubbed in each morning after breakfast, for twenty minutes or half an hour. The morning is the best time, because the patient is then most vigorous; and besides, if rubbed at night, the heat and perspiration produced by lying in bed will cause a considerable loss of the ointment, and the patient breathes an atmosphere loaded with mercury. Unless the full time mentioned be given to the rubbing, half the ointment will be inefficient. It is usually necessary to impress the importance of this upon the patient, who, however, in a very short time lends a willing aid to the surgeon, finding his symptoms disappearing gradually, and his general health and strength improving rather than decreasing.

"The inside of the thigh and popliteal space is the region where the inunction can be best practised. The patient should be told to rub in upon each thigh upon alternate mornings, carefully washing off the old ointment with warm soap and water before commencing the new inunction; this prevents the skin becoming irritated, and mercurial eczema appearing; if, however, a few scattered pustules do appear, the rubbing should be transferred to the axillæ for a time. I am in the habit of directing the patient to take a hot-air or Turkish bath once or twice a week during the treatment, and find it not only preserves the skin from irritation by thoroughly cleansing it, but also facilitates the action of the mercury; patients, including those in hospital, always express a sense of comfort and relief from the use of the bath."

The treatment of the later manifestations of the syphilitic poison, eminently intractable, and often perilous to life as they are, is always the subject of anxious consideration to the practitioner, and the convenience of Dr. Barton's classification of them is at once apparent when he comes to discuss the treatment of the third stage of the disease. Valuable as are some drugs, and suitable hygienic management in improving the general health, it has long been conceded that in combating the later syphilitic phenomena we cannot dispense with the specific remedies, mercury and iodide of potassium, and those physicians and surgeons who have had the successes and the failures of a long experience to guide them, are generally able, in an empirical fashion, to determine in any individual case which is the more appropriate medicine; but we think we do not go too far in saying that with most men beginning practice, and with many all their lives, the rule has been to try the iodide first, and if that fails to have recourse to mercury. The author attempts, and we think successfully, to formularize the indications, so that the employment of mercury and the iodide may rest on a more secure basis. In the chapter devoted to the description of the phenomena of the third stage, he told us which tissues were most generally, when attacked with the poison, the seat of the *hard*, and which were most commonly the seat of the *gummy* deposit. Guided by this information, we will generally, when we have to deal with syphilitic disease, even of structures hidden from our view, be able to tell the character of the deposit; if hard, the author says, we must use mercury; if gummy, iodide of potassium; and in mixed cases a combination of the two. Mercury he considers indispensable in the scaly affection of the skin, and in the dry tubercular eruption, and cautiously used the appropriate remedy for ulcerating tubercles also; iodide of potassium, on the contrary, is the agent which, with marked good effect, exerts its influence on morbid changes affecting the mucous membranes. In common with most surgeons, Dr. Barton prefers for this stage the bichloride or biniodide to the other preparations of mercury. An account is given of syphilization which finds no favour with our author. In the last chapter we have an account of hereditary and infantile syphilis, in which the reader will find the various important additions to our knowledge which we owe to the labours of Diday, Hutchinson, and other painstaking observers; and the work concludes with a succinct tabular view of the manifestations of the acquired and the hereditary disease, placed side by side, so as to

bring prominently forward the distinctive features of each. We can say most truly that the profession in Britain is much indebted to Dr. Barton, for placing within its reach in a work of moderate compass, a complete account of this most important disease, and an eminently practical guide to its management.

From Mr. Berkeley Hill's papers in the *British Medical Journal*, we were aware that for some time past he had been devoting considerable attention to venereal diseases. The work before us consists of five divisions, the first contains a sketch of the history of our knowledge of these maladies; in the second and main portion true syphilis is described—its mode of propagation, its progress, its phenomena, as manifested in the various structures, and its treatment. The third part describes chancre, which term the author restricts to the local contagious ulcer; in the fourth is given an account of gonorrhea; and in the fifth are noticed accessory venereal diseases in the male and female. Though more bulky than the work last noticed, Mr. Berkeley Hill's volume contains about the same amount of matter. His table of contents we commend to the study of all gentlemen who are about to bring out medical books, for its admirable arrangement, and the way in which, at a glance, it supplies one with a notion of the mode of treating the subject; as to the advantage of the summaries which we find at the end of several of his chapters, we do not quite agree with the author; they tempt the careless to omit in their reading the fuller statement of the argument, without which no proper acquaintance with the subject is possible, and to him who studies the book with care they are useless. At the conclusion of a very lengthy discussion a short summary may occasionally serve a good purpose; but to introduce seven pages as a summary of a chapter of only eight-and-twenty, surely is unnecessary. Agreeing with Dr. Barton on all the important questions involved, he presents the subject to the reader in a different manner. Dr. Barton first clears the way by describing the local venereal sores which have so long been confounded with the first stage of the constitutional disease, and then proceeds to its description. Mr. Hill reverses the arrangement, and treats first of the general disease, and subsequently of the local maladies. Both will make the careful reader thoroughly acquainted with the subject. To the student, however, who has no previous knowledge of the questions involved, or who is in the more unfortunate position of having a confused and erroneous

conception of them, we think Dr. Barton's plan is more likely to give clear ideas.

Travelling over the same ground as the former work, we will not stay to allude to more than a few of the author's conclusions.

We quoted an interesting case from Dr. Barton's practice, showing the danger which, somehow, is not sufficiently considered of communication of the syphilitic poison by the secretion of a secondary lesion, a case which forcibly illustrates the risk, is also narrated by Mr. Hill.

The uselessness of attempting to avert constitutional contamination by any local treatment, however active, of the primary sore, or, as Mr. Hill very felicitously terms it, "the initial manifestation," has long been inferred, but it is seldom that the surgeon has such an opportunity as the following of deciding the point:

"In July, 1858, a gentleman applied to me with the following story:—That morning, about four o'clock, during violent intercourse, he had felt a sudden snap. On awaking, a few hours after, he found the bed and his clothes much stained with blood, so that he must have bled freely. He discovered the frenum to be torn across; this made him anxious to know if there were any means to insure him against the chance of syphilis. At 3·30 p.m. of the same day, I examined the part, and found that the frenum was torn down, the wound slightly swollen, but otherwise quiet enough. Ricord's views were then in vogue—that destruction of the sore within five days of its existence would prevent syphilis, and I assured him that cauterization would remove all danger of the disease. To make sure, I destroyed a considerable layer of tissue with fuming nitric acid. In due time the eschar I made separated. The surface healed very quickly, and my patient's satisfaction was extreme. This was the end of July. In the latter part of August he called again, and showed me the cicatrix, which he said that morning he noticed to have altered. It was clearly indurated. Presently the glands in the groin enlarged, and general syphilis followed, which lasted a couple of years. The induration increased in the cicatrix, but it never ulcerated again."

Of the initial manifestation, as it is usually seen on the genital organs, he gives an excellent description, first, of its typical forms, and, secondly, of the alterations to which it is liable from local irritation or admixture with the poison of the soft sore.

Three typical varieties are enumerated by him.

"1. The *desquamating papule* begins by forming a small solid elevation at the point of inoculation; this, at first the size of a pin's head, extends

until it may reach that of a sixpence or a shilling. The skin around retains its natural aspect, and no inconvenience, except now and then a little itching, is felt. The colour is reddish coppery, or reddish purple, like raw ham. The surface, slightly raised above the skin, is flat and smooth, being covered by a few thin scales of dry epithelium. Not unfrequently the papule undergoes no further change, but after five or six weeks grows pale and subsides, leaving no trace of its presence. When the site of inoculation is the scar of a previous chancre, the cicatrix is thickened by this new deposit, which then frequently assumes an irregular form; instead of round or oval, it becomes angular, or linear; in these cases the coppery tint is often altogether absent, and the surface retains then the same hue as that of the surrounding skin. This form is most common on the skin in situations which are kept dry and not chafed.

"2. *The superficial erosion* comes between the dry scaling papule and the well-marked ulcerating papule; common localities for it are the under surface of the foreskin, or in women the opposed surfaces of the nymphæ, where the parts are constantly moist. For its production the surface of the elevated papule becomes red, secretes a plentiful fluid, usually thin and serous, but occasionally puriform. These eroded surfaces are similar in appearance to the mucous patches of the general eruption, which, like these, owe their character entirely to the constant moisture. Sometimes on the skin or sheath of the penis the induration is very scanty, the surface consequently is only slightly raised; and it usually secretes a little viscid discharge, but has no tendency to extend, nor, unless irritated by dirt, to suppurate. Its edges are clearly defined, which peculiarity, with the absence of induration, causes it to slightly resemble the simple contagious chancre.

"3. *The indurated ulcer* begins exactly in the same manner as the papule; but the surface instead of stopping short at desquamation, ulcerates. The ulceration begins at the centre and spreads outwards through the indurated papule, but does not extend beyond the papule, whence the cicatrix is very small when the ulcer heals, and often imperceptible. The fully developed sore has the typical appearance of an indurated chancre. The base is hard and resisting, feeling between the finger and thumb like a cup of gristle set in the skin; its surface is covered by a scanty adhesive yellow discharge, the edges are sloping, rounded, and the induration extends a little beyond the extent of the ulcer. The progress is always slow, and, if the sore is kept clean and free from irritation, terminates by cessation of the ulceration, cicatrization of the surface, and absorption of the indurated deposit. The period of existence of the initial manifestation varies from three or four weeks to, in rare cases, a duration of several months, if not shortened by treatment."

As helping to distinguish the true induration so characteristic

of syphilis from the subjacent thickening which may occasionally in local sores simulate it, he makes, we think, an excellent point in drawing attention to the blanching of the syphilitic induration if pressed. His view that the general enlargement of the lymphatic glands usually takes place only in those regions where the glands are fed by lymphatics, from portions of skin affected by eruption, agrees with our own. There are, however, exceptions; we had lately an opportunity of seeing marked enlargement of the posterior cervical glands, when the most careful examination did not discover any eruption on the scalp.

Many works on skin diseases fail to help us much to distinguish syphilitic from non-syphilitic eruptions, and we think Mr. Hill has given those who make cutaneous phenomena a study, valuable aid in the following summary, of the points available for diagnosis:—

"Eruptions on the Skin, or Syphilides.

"*General Remarks.*—Syphilitic eruptions resemble many of the ordinary cutaneous eruptions; hence, the various forms have been named accordingly. They are distinguished from the latter, however, by characters they have in common, and by some peculiar to each: thus their diagnosis is rarely a matter of much difficulty.

"*Characters possessed in Common by the early Forms.*—1. The *papular* is the commonest eruption. All the other, even the macular, eruptions are mingled more or less with papules, and for this reason the papule becomes the type or basis of all syphilitic eruptions. With this tendency to produce papules, the different rashes do not develope into typical examples of the kind among which they are classed. The vesicles are abortive, and the scaling patches desquamate but scantily.—2. *Symmetry of the rash.* In the early stages both sides of the body, both arms, both legs, are beset with spots, because the virus producing them pervades all parts of the body.—3. *The colour of the eruptions.* At first, this is often bright red, but it changes quickly to the hue of raw ham, or assumes a coppery tint. As the eruption fades, the brown colour becomes more distinct, and ultimately turns to brownish-grey before disappearing altogether. In vascular or dependent situations, like the face or lower limbs, a purplish tinge sometimes pervades the brown, but this is less common than the coppery-red hue. The rapid change of the bright redness to the peculiar coppery-red or raw ham-like colour, is very characteristic.—4. *Rarity of irritation.* Syphilitic rashes are almost always entirely free from heat, itching, or smarting, symptoms of which one or other is a common character of most non-syphilitic affections of the skin, and is often their prominent symptom. This peculiarity in syphilis is in part owing to the

usually slow progress of the eruption, for a little transitory itching does accompany a syphilitic rash when that is very rapid in development.—5. *Favourite localities.* Most frequently the trunk, the forehead, especially along the border of the scalp, the margins of the nostrils, and the nape of the neck are chosen by the eruption. The outer aspects of the extremities more often escape, and the backs of the hands and feet are rarely marked. On the contrary, the palms and soles are frequently attacked by syphilis—situations commonly avoided by non-syphilitic rashes. Again, the favourite localities of the non-syphilitic eruptions are not those of the corresponding syphilitic rashes. For instance, simple macular eruptions prefer the extremities, syphilitic maculæ select the trunk of the body. Non-syphilitic psoriasis, when it is scattered in patches over the surface, always prefers the outer and rough aspect of the limbs. In syphilitic scaly eruptions, the desquamating patches are often widely spread over the body, without attacking the special sites of simple psoriasis, and show a preference for the inner over the outer aspects of the limbs.—6. *The form and arrangement* of the spots and patches in syphilis are often arches or circles, or segments of circles; a disposition less frequent in non-syphilitic skin-diseases.—7. *Multifarious character of the eruption.* A character seldom failing to the syphilitic eruptions is their *association together;* the papules appear among the maculæ, the scaling patches co-exist with mucous patches, or with pustules and vesicles of the scalp. This intermingling of different eruptions is very unusual except in syphilis, where they have a common exciting cause. In 153 patients with maculæ, Bassereau found only 28 free from some other eruption.—8. *Transformation of one form into another* is often observed when there is opportunity for watching the progress of the disease. It is not unfrequent to perceive smooth papules become rough with desquamation, or, if kept moist, develope into mucous tubercles. 9. A most important diagnostic sign is the *presence of other syphilitic affections in other organs*, for instance, in the lymphatic glands, the throat, &c. These peculiarities more or less accompany all the early syphilitic eruptions.

"The later eruptions, which appear when the disease is losing its activity, have not so goodly a collection of special characters. They are seldom spread widely over the body, but more often limited to a very small part of its surface. The brownish tinge is well marked from their chronic course. They often cause considerable destruction of tissue by slow ulceration or suppuration, and therefore their sites are marked by scars. They are often the sole evidence of active syphilitic disease. Under proper treatment they commonly heal rapidly. They have an exceedingly slow course, and are apt to recur again and again."

He shows clearly that the old notion that certain late symptoms are due to a combination of the baneful effects of mercury, and

syphilis rests on no solid foundation, but that whatever harm the mineral does to the syphilitic it does equally to those who are obliged to use it under other circumstances.

Of the chronological arrangement, Mr. Hill makes little use in describing the so-called secondary and tertiary manifestations. He treats of the general phenomena of syphilis according to the structures affected.

Taking up in succession eruptions of the skin, lesions of the alimentary canal, the air passages, the bones, muscles, tendons, joints, heart and blood-vessels, the brain and nerves, and the genito-urinary organs. Here, likewise, we must say, we think his plan not so likely to leave in the mind of the student, who has seen but little of the disease, a true conception of its course.

As to the treatment of the disease, and more particularly as to the use of mercury, his views are in the main similar to Dr. Barton's. If future experience confirms the former author's rules as to the cases suited for iodide of potassium, their importance cannot be overrated. Mr. Hill's directions on this point are not so precise. He says, the iodide is chiefly beneficial in the late stages, and among the special cases for which he recommends it, he enumerates affections of the brain. Here we do not quite agree with him; on the contrary, if, under affections of the brain, he includes, as we presume he does, meningeal lesions, our experience leads us to repose our confidence generally in mercury.

A favourite with the author in the late forms of the disease is the freshly formed biniodide of mercury, which he makes according to the following formula:—

Perchloride of Mercury, grs. 3
Iodide of Potassium, grs. 96.
Compound Tincture of Bark, ʒ 4.
Sesquicarbonate of Ammonia, grs. 60.
Water to ʒ 8.

Of this he gives two tea-spoonfuls, thrice daily, half an hour before meals. In the concluding direction we cannot concur with him, as we invariably find it safer to give the more active mercurial preparations after food. In some obstinate cases he ventures to use as much as forty grains of the iodide of potassium, thrice daily. We have never given it so freely, but we are quite satisfied that unexpectedly happy results will sometimes be obtained by its administration in quantities much larger than those usually prescribed.

In Dr. Barton's first chapter he quotes for us Diday's tabular statement of the points of difference between the local sore and the true syphilitic one. When Mr. Hill comes to treat of the former he supplies us with a more extended one taken from the valuable work of Clerc; he says:—

"It is usually easy to decide whether a sore on the genitals is derived from a local contagious ulcer if attention be paid to the distinctions that will be immediately enumerated. It is true, there is sometimes a difficulty in deciding that syphilis has not been imbibed at the same time as the local irritant. This difficulty is impossible to solve in all cases if the source of the sore is uncertain, and if the period necessary for the incubation of syphilis has not elapsed when the examination is made. In practice, nevertheless, such instances are not common; in the great majority of venereal ulcers, a positive opinion can be given at once, and for the rest, a short period of observation suffices for deciding the question, by the speedy appearance of the changes peculiar to syphilis betraying the presence of that disease. The differences between the local chancre, and the primary manifestation of syphilis, are contrasted in the following parallel paragraphs. They are altered from those of one of Clerc's pupils, M. Blacheyre."

DISTINCTIONS BETWEEN THE LOCAL ULCERS AND THE PRIMARY MANIFESTATIONS OF SYPHILIS.

LOCAL ULCER.	SYPHILIS.
1. *Incubation nil;* irritation is at once displayed by reddening and speedy ulceration of the point of contagion.	1. Incubation is always of some length; the average being twenty-four days.
2. Ulceration frequently begins by a pustule. Ulceration is an essential condition, and is always very active during the first few weeks.	2. The manifestation begins by a papule. Ulceration, if accidental irritation is absent, is never active. Superficial erosion is sometimes present as soon as induration begins, but even this is often delayed till the induration is far advanced, and may be altogether absent.
3. The virulent character of the ulceration, gives the sore its tendency to enlarge, and its long duration, extending in mild cases six weeks, in severe ones much longer.	3. The indolent character of the ulcera, tion, of which the duration is uncertain, and depends on the condition of the patient.
4. The *aspect of the ulcer is characteristic;* it is hollowed, the surface is spongy and undermined; the edges are sharply cut, and the discharge is opaque, yellow, and plentiful.	4. The *aspect of the papule is characteristic;* it is often not ulcerous, but simply eroded, or desquamating. When the surface is ulcerated, it is smooth, and covered with adherent, scanty secretion. The edges are not undermined, but raised, sloping, or rounded.

LOCAL ULCER.	SYPHILIS.
5. The base of the sore is supple, unless thickened by inflammatory congestion; but this pseudo-induration disappears when the inflammation is subdued.	5. The base of the papule is of gristly hardness, quite independent of inflammatory action; is peculiar in character; very rarely absent in men, and generally present in women. It usually lasts several months before it disappears.
6. Multiplicity of the sore is the rule. This results from the consecutive inoculations of the parts around with the discharge of the original sore.	6. The papule is habitually solitary. When there are more than one the papules are all of one age.
7. The lymphatic glands remain either unaffected, or become acutely inflamed, and form abscess, or bubo.	7. The lymphatic glands are almost invariably affected by slow, irregular enlargement of the whole group, at a certain length of time after infection, but suppuration is infrequent, and when present is the consequence of ordinary irritation.
8. The matter of these buboes is often inoculable on the bearer. If so, it is pathognomonic of chancre; it also converts the bubo into a chancre.	8. When abscess forms around the enlarged lymphatic glands, it is not inoculable on the bearer.
9. However long the chancre lasts, it remains a local disease.	9. Between two and three months after contagion, erythematous and papular eruptions appear on the surface of the body.
10. Phagadena and ulceration of inflammatory kind are frequent complications.	10. Any inflammation or extension by ulceration is rare.
11. Pain in the sore is usually sharp, often severe.	11. Absence of pain.
12. Seldom met with away from neighbourhood of the genital organs.	12. Tolerably frequently met with on parts away from the genitals.
13. The source a similar ulcer.	13. The source is most usually an ulcerating papule of a syphilitic eruption.
14. Antecedent to the disorder, the patient may or may not have had syphilis, and may have had similar ulcers several times before.	14. Antecedent to this, the patient has not had syphilis, or such a hard-based ulcer.
15. The secretion of the sore is inoculable on the bearer, until cicatrization is advanced.	15. The secretion is very rarely inoculable on its bearer, and so only when its surface is irritated into acute suppuration.
16. The discharge is also inoculable on animals.	16. The discharge is not inoculable on animals.
17. It may be many times repeated in each individual.	17. It is only once developed in each individual. Exceptions to this are too rare to invalidate the rule.

Mr. Hill's directions for the treatment of the local sores, and their various complications, and for the management of gonorrhea, are full and precise. In that most intractable disease, gonorrheal rheumatism, our own experience long since satisfied us that instead of there being anything metastitic in it, the more virulent the urethral inflammation the more painful is the arthritic mischief, and the sooner you cure the former the sooner you will get rid of the latter; and in this we find Mr. Hill's opinion coincides with our own. Thoroughly acquainted with the literature of the subject, and, what is more important, thoroughly familiar with the phenomena of venereal disease from actual observation, Mr. Hill's work proves him to be a safe and judicious practitioner.

On the great work of Launcereaux we do not mean to offer any criticism; the frequent references to it in every recent essay on syphilis proves it to be a mine of wealth. The object and scope of the treatise is thus stated in the preface:—

"The natural sciences have succeeded, for the most part, in classifying the objects with which they are engaged under a certain number of well-defined types, each of these types giving the notion of all the individualities belonging to it. Pathology, also, ought to possess an analogous classification, for the organopathic conditions of man present distinct types, always recognizable by constant characters, which permit of grouping them so as to constitute morbid species. But if, amongst the acute diseases, we know the detailed history of several species, it cannot be denied that in the domain of chronic diseases we are much less advanced. I have, therefore, thought it useful to follow in its minutest details one of these diseases.

"For this purpose, I have chosen the disease which, both by its origin and by its multiple manifestations, is best fitted for an exact, complete, and varied study. I mean Syphilis. I have sought to trace out its history, not after the manner of the specialist, whose view does not extend beyond the horizon of his speciality, but after the manner of the nosographer, who finds in it only a detached chapter in the great history of diseases.

"This book is divided into six parts: Historical Notice, Nosography, Semeiology, Ætiology, Treatment, and Legal Medicine."

The arduous task so undertaken has been performed with rare industry and ability. The work must ever remain one of our most valuable books of reference; the Sydenham Society have wisely selected it for translation. When the second volume comes to be

published, we hope a table of contents of the whole will be added. Eminently a work of reference, and eminently a work in the arrangement of which the convenience of the reader is less consulted than the regular and systematic treatment of the subject, the absence of any table of contents detracts most seriously from the value of the Translation.

Dr. Hughlings-Jackson's pamphlet is a reprint from "The Transactions of the St. Andrews' Medical Graduates' Association," of eight interesting cases of "Disease of the Nervous System in Patients the subjects of Inherited Syphilis," and contain several suggestive and valuable comments. In establishing the diagnosis of congenital syphilis, the author attaches great weight to the examination of the teeth, convinced that the dental malformation characteristic of syphilis is very inaccurately conceived by many. We extract Dr. Hughlings-Jackson's description of it:—

"It is to be particularly observed, that although Mr. Hutchinson has described many dental peculiarities in children, he relies only—for a test of congenital syphilis—on a *certain* malformation of the two upper central incisors of the *permanent set*. Normally these teeth are chisel shaped, *i.e.*, *broader* at their cutting edges than at their insertions into the gum. The malformation which Mr. Hutchinson has discovered to be a sign of congenital syphilis consists (First) in a reversal of the normal shape so far as this, that the two teeth above-named are *narrower* at their cutting edges than at their insertions into the gum. Hence they are then, as Mr. Dixon has observed, like 'screw-drivers.' (Second)—The teeth are often notched. Hence such teeth are often called 'notched teeth.' It is well to add that Mr. Hutchinson attaches no special importance to 'bad teeth,' to 'irregular teeth,' &c., but, I repeat, to a particular kind of malformation of two of the permanent teeth."

Dr. Oppert has evidently an acquaintance with the literature of his subject, which in the hands of many men would have supplied materials for a bulky volume. He reminds us, in language singularly brief and concise, of the various visceral lesions which have been found by various pathologists in the subjects of syphilis, so that we may be on the look out for them. In treating them, he relies mainly on the iodide of potassium.

1. *Traité Expérimental et Clinique de la Régénération des Os et de la Production Artificielle du Tissu Osseux.* Par L. OLLIER, Chirurgien en Chef de l'Hôtel-Dieu de Lyon. Tom. II. Victor Masson. Paris: 1867.

1. *Experimental and Clinical Treatise on the Regeneration of Bone, and the Artificial Production of Osseous Tissue.* By L. OLLIER, Senior Surgeon to the Hotel-Dieu of Lyons. 2 Vols. Victor Masson. Paris: 1867.

2. *De l'Evidemēnt sous-périosté des Os.* Par M. le Docteur SEDILLOT, Professeur de Clinique Chirurgical a la Faculté de Médicine de Strasburg, &c., &c. Deuxième edition, pp. 438. J. B. Baillière. Paris: 1867.

2. *On the Sub-periosteal Evacuation of Bones.* By Dr. SEDILLOT Professor of Clinical Surgery to the Faculty of Medicine, Strasburg. Second edition, pp. 438. J. B. Baillière. Paris: 1867.

THE authors whose works stand at present before us differ from each other considerably in their views as regards the surgery of the osseous system. The work of Dr. Sédillot is, in fact, in a great degree a critique upon the experiments and conclusions of M. Ollier, and we must say a critique which does not appear to us quite fair and impartial. Both, however, are works well worth careful perusal; both deal with a subject the importance of which, in the eyes of the practical surgeon, cannot be overrated; both appeal to physiological experiment as well as clinical research. The authors evidently pride themselves not less on their bedside observations than on the scientific merits of their works; one, paying homage to science, dedicates his volume to M. Flourens, while M. Ollier, devoting one volume to the experimental portion, and the second to the clinical, names Claude Bernard and Velpeau, as those to whom he would inscribe his work.

We do not mean to follow Dr. Sédillot too closely in his criticisms, feeling convinced that we shall meet the requirements of our readers much better if we endeavour to give, in as concise a manner as possible, an analysis of the views of each author.

Before M. Ollier no physiologist had transplanted periosteum or any of the other elements of bone. It was he first took up the idea

of removing the periosteal membrane from its proper bed, and either placing it in a new position among the neighbouring muscles, without entirely detaching it or depositing it in a new place altogether. In fact, transplantation of bone, and the making of osseous grafts, was new in his hands, and whether his investigations may yet bear all the good fruit he expects, there can be no doubt but that his method of experimentation has thrown additional light on the natural history of bone development and growth.

Havers attributed the growth of bone to the canals which still bear his name. According to him, the periosteum performed no bone-forming function; on the contrary, he viewed it as a membrane which limited the extension and increase of bone. Even after Duhamel's memoir appeared, this idea still prevailed. We find Bichât himself in part adopting it, for he says, in his *Anatomie Générale*:—"The periosteum is a kind of limit which circumscribes within its natural bounds the progress of ossification, and prevents it from passing into irregular aberrations."

It was by studying the progress of union in broken bones that Duhamel became convinced of the important office filled by the periosteum in the formation of bone; he observed this membrane at first becoming tumefied and afterwards being transformed into cartilage, and later into bone. He saw that it became tumid over the ends of the fragments, and, becoming interposed between them as it were, soldered them together. In order to investigate more thoroughly this transformation of the periosteum, he made a hole in the substance of a bone and found that the periosteum sunk into the hole and became transformed into cartilage first and then bone. He regarded the periosteum as the agent of cicatrization of osseous wounds, and concluded from his various experiments that ossification is nothing more than the incrustation of the proper substance of the periosteum with calcareous matter. He afterwards somewhat modified this opinion. He concluded that it was not, properly speaking, the periosteum itself, but a matter interposed between it and the bone which furnished the elements of ossification. This idea he formed from a fancied analogy between the periosteum and the bark of trees. The layers of bone were formed, as he conceived, from this intermediate substance as the layers of wood by the organization of the cambium.

Duhamel's views were different from those of Haller; the latter believed that fractures were united by the aid of a juice exuding from the bone and the marrow; according to him the periosteum

took no active part in bone formation—it neither produced the bones nor formed the callus.

We find, therefore, that Duhamel's ideas were very much in harmony with the modern doctrines regarding the evolution of tissues. The early microscopists had affirmed the old doctrine of reunion and cicatrization of tissues by means of an exuded fluid. In this exudation (cyto-blastema), by a sort of spontaneous generation, the cells or nuclei destined to form the future cicatricial tissue became developed. Lymph plastic or coagulable, nutritive juice, osseous juice, jelly of Troja, exudation of the microscopists, are in reality all terms merely expressing this theoretic idea.

Of late Virchow has protested strongly against this view, and the majority of histologists are now of his opinion. He says there is no spontaneous generation of the elements. The cells of a cicatrix arise from the cells of the connective tissue already existing. There is, therefore, no plastic lymph poured out, and callus cannot be the result of an exudation between the periosteum and the bone; what has been mistaken for it is the tumefied periosteum, the cellular elements of which are reproducing themselves by proliferation. It will be seen, then, that between Duhamel and Virchow there exist merely such differences as are due to the difference of the language and forms of expression at the time each wrote. Under the influence of Bichât and Scarpa the ideas of Duhamel lost ground; and it was not until Dupuytren advocated them, and Stanley and Syme showed that resections practised on dogs were followed by regeneration of bone when the periosteum was preserved, that its true importance was at last assigned to this membrane by surgeons.

M. Ollier's experiments upon the artificial production of bony tissue by the displacement and transplantation of periosteum are perfectly conclusive; and as the writer had an opportunity of seeing M. Ollier's preparations (which were exhibited some years ago at a meeting of the British Association at Oxford) he can speak with confidence upon the subject. His fundamental experiments are as follows:—

1st. Dissection of a flap of periosteum left attached to the bone by one of its extremities; this flap was curled round among the neighbouring muscles.

2nd. Dissection of a flap of periosteum, also curled round among the neighbouring muscles; but the pedicle by which it remained

connected to the bone was cut on the third and fourth day after the operation.

3rd. Dissection of a flap of periosteum and its immediate transplantation into a locality remote from that whence it was taken.

In every one of these experiments M. Ollier found that there was a development of osseous tissue in the periosteal flap.

That the marrow is not essentially necessary to the nutritive growth and development of bone, or to the regeneration of bone such as occurs in the union of fractures, is obvious from the fact that these processes take place in the bones of birds in which no marrow exists. The part which it does play as regards ossification, and the nutrition of bone in those animals in which it exists, has also been made the subject of experimental research by M. Ollier. He has proved that the marrow does not, like periosteum, ossify after transplantation; it does, however, undergo ossification when, still within its medullary canal, it is isolated by the introduction of a metallic tube around it. There must be, as appears from his experiments, a certain amount of irritation in order to induce ossification in the marrow; pathological observation leads to the same conclusion as in those cases where the medullary cavity of bones becomes filled up; there has been a chronic form of osteomyelitis producing in the marrow an irritation, gradually terminating in its more or less complete ossification. Experimental operations upon animals, in which the marrow is destroyed, are attended with the gravest consequences, a large proportion falling victims to purulent infection; and these results are only too much in harmony with what surgical experience tells us to be the case in man. Penetrating wounds of bones, with injury to the marrow, are always serious, especially in ill-ventilated hospitals, or camps.

The marrow is endowed with a very pronounced vegetative activity; its cells undergo proliferation with great rapidity. In rabbits and dogs, where the entire marrow in the shaft of the tibia has been destroyed, at the end of twenty-five to thirty days the whole medullary canal is found filled either with new marrow or with osseous tissue. In fact, the reproduction of the marrow goes on very rapidly: when, for example, the quarter of the contents of the medullary canal of a young rabbit's tibia is removed, the marrow which remains begins to vegetate, and at the end of five or six days the canal is no longer empty.

The elements contained within the Haversian canals are not without their influence on the nutrition of bone. Even when the periosteum

has been stripped off and the marrow simultaneously evacuated, M. Ollier has found that necrosis did not follow; on the contrary, the medullary canal became again filled with a spongy tissue, and there was hypertrophy of the bone above and below the part denuded of its periosteum.

In the first chapter of his second volume M. Ollier speaks of necrosis in man and of the regeneration of necrosed parts. His definition of necrosis differs in some respects from that of other writers, and the varieties are described by him in a clear and practical way.

"Sometimes," he says, "the necrosed parts resemble a portion of healthy bone; sometimes they have the aspect of diseased bone. In the first case the sequestrum presents to the naked eye, as well as to the microscope, the character of normal osseous tissue; in the second, it resembles inflamed osseous structure, generally speaking, rarified, sometimes eburnated, the death of the portion not changing its primitive characters.

"This difference of aspect indicates to us the chief mode in which necrosis takes place. In the first case the bone dies without previous disease: it passes rapidly under the influence of acute inflammation from the state of life to that of death. This may be called *primitive* necrosis. In the second case, the bone is already diseased when it becomes necrosed; it has already undergone changes under the influence of inflammation; it has become rarified, vascular, and softened. The death of the bone has come on secondarily and often long after the commencement of the affection. This may be called *carious or secondary* necrosis.

"Between these two typical forms there is room, no doubt, for intermediate varieties, as between the gangrene of a limb produced rapidly under the influence of an obliteration of the main artery and the loss of this member by successive mortification of its various elements, as may occur under the influence of some less acute form of inflammation or phagedena.

"These two kinds of necroses differ from each other notably as regards the regeneration of bone.

"After a *primitive* necrosis the periosteum, if it has not been itself destroyed by the violence of the inflammation, soon sets about reproducing new bone. The inflammation once passed, the formative irritation persists in the ossifiable tissues, and regeneration goes forward.

"After *carious or secondary* necrosis, on the contrary, the original disease goes on its own course, if the general conditions on which it depends still persist. The necrosis is merely an accident of the disease; in this case it is not the termination of it.

"The separation of the bone does not go on because the tissues which ought to contribute to it are themselves diseased; it is limited to some osteophytic growths. The periosteum, in a fungoid state, is more or less destroyed at the seat of the disease; and if art does not interfere the malady has little tendency towards cure. The sequestrum not being in this case the entire disease, it is necessary to attack the caries itself. . . . . Primitive necrosis gives us absolutely the same results as the artificial necrosis produced upon animals. The osseous tissue of man behaves in the same manner, and the examination of clinical facts conducts us to the same conclusions as experimental facts."

M. Ollier, from his experimental, as well as his pathological observations, has been led to repose great confidence in sub-periosteal resection of bone attacked by carious necrosis. He details at great length his operative proceedings, and very fully describes the instruments which he employs. He lays much stress upon free incisions, giving sufficient room, not dividing muscular structure if it is possible to avoid this by cutting between muscles. Care must be taken not to sever tendons, the attachments of which to the bone are to be separated with the greatest caution. The periosteum itself is to be stripped from the bone, without being separated from the surrounding soft parts, and the bone divided with a chain saw, or removed by the gouge and mallet, as the case may be. Perhaps an idea of his method may best be formed by detailing one of his cases:—

"Case XXVII.—*Caries of the Great Trochanter—Sub-periosteal Resection—Cure.*—Marie Bastin, aged thirty-two years, admitted to hospital 4th of May, 1863. Twelve years ago the patient had a large abscess in the region of the trochanter, due probably to inflammation of the bursa in this locality. This was freely opened by Dr. Barrier, and the patient got well. In 1861 the symptoms re-appeared, and a new abscess formed; no sequestrum came away; the abscess got well after long suppuration. Before admission, May 4th, 1863, there existed a fistulous trajet, with subcutaneous burrowing, on a level with the trochanter. An abscess had burst spontaneously at the site of the first cicatrix, and a probe, passed upon the denuded bone, was found to enter into a cavity without detecting any movable sequestrum. Repose and constitutional treatment was ordered for the patient until the end of July, but as the local affection was not improving, operative interference was determined upon. On July 29th a longitudinal incision was made upon the cicatrix of the first operation down to the bone, when a cutaneo-periosteal flap was detached on each side, the detachment being facilitated by a small cutaneous

incision at right angles to the first. In this manner the great trochanter was entirely laid bare, as far as its base, and on account of the friability of its tissue, it was attacked with the gouge. Martin's saw would have been used had it offered too much resistance to the first instrument. The whole of the diseased portion was circumscribed by means of a chisel, driving in this instrument by means of a mallet to the depth of five or six milimetres—then, with an elevator, all this circumscribed portion was detached in one piece. With the gouge the rest of the fungous and carious parts were taken away, and the wound cleaned. All the softened portion was removed. The wound was stuffed with charpie, and the patient's limb placed in a Bonnet's splint, so as to prevent violent or irregular movements.

"30th.—Patient complains of pain in the foot of the side operated upon.

"31st.—Pain in the foot moved to the knee; no swelling in either foot or knee; pulse quick; retention of urine.

"2nd of August.—Abundant fetid suppuration; general condition better; is able to pass water. Wound dressed with powdered charcoal, quinine, and camphor.

"From this day the general and local condition went on gradually improving; by the middle of September the patient began to get up; in November she went out daily, walking with a stick.

"When examined on the 3rd of January—that is, five months and five days after the operation—she was in the following condition:—Wound completely cicatrized long since; at the level of the trochanter there is felt a hard mass fixed to the bone, and with difficulty isolated from the surrounding soft parts. Viewed from before, the trochanteric region appears as prominent as that of her opposite side; viewed laterally, it is traversed by a depressed cicatrix, which is adherent to the bone. It is then seen that the deficiency of bone is not completely supplied. The patient walks without lameness when not hurried."

In the concluding volume of his remarkable work, M. Ollier, by a large number of cases, fully substantiates the assertions put forth in his introductory pages. He first examines the subject with reference to the regeneration of bone in consequence of spontaneous necrosis; then the reparation of losses of substance engaging bone to a greater or less depth; finally, he comes to the real question at issue—viz., concerning the regeneration of bone after its subperiosteal resection; that is to say, its regeneration by the isolated periosteal investment. He convinces us by positive facts that bone tissue may be formed in man by the same elements, and under the same conditions, as in the other mammalia on which he has experimented.

Whether operation by sub-periosteal resection may bear such good fruit in the hands of other surgeons as in those of M. Ollier remains to be seen; but even making some allowance for the author's enthusiasm concerning a subject which he has done so much to elucidate, we do not hesitate to pronounce his work one which has added much to the progress of scientific surgery.

Dr. Sédillot is entirely at variance with the advocates of sub-periosteal resection. His work, as he himself tells us, does not pretend to be either a monograph or a dogmatic treatise. It is in fact a series of works which he has undertaken and published since 1858, upon what he has named "l'Evidement des os," as a means of preserving the form and functions of the bone, and of avoiding amputation.

The doctrine on which the practice of "Evidement" is founded rests upon the general fact that every portion of healthy bone, clothed by still adherent periosteum, aids in the reproduction of bone by the proliferation of its sub-periosteal cells, interstitial as well as medullary. This regenerative process is found to be very active in cases where the bones are bruised or cauterized, in a word, submitted to injury, the consequence of which is, that the bone tissue gains a power of growth and development similar to that which it enjoys during fetal and early life.

"L'Evidement" is an operation whereby we, as it were, dig out and excavate a bone, so as to remove the diseased parts and leave behind only the healthy portion. The form of the limb is unaltered, the attachments of muscles are preserved, the periosteum remains intact, and the osseous reproduction takes place underneath this membrane, and in the interior of the bone which has been emptied of its diseased contents. Such is Sédillot's definition of his process, and from this it appears that, except in name and in improved instruments for the purpose, the procedure differs little, if at all, from the method of dealing with certain diseases of bone from time immemorial.

When we read the third chapter of the eighth book of Celsus, to say nothing of writers comparatively later, we cannot say that we find much novelty in the surgical proceedings which have been from time to time set forth anew for the treatment of bone diseases. Whether it be the mallet and gouge, the actual cautery, the trephine, lapis infernalis, or some such active caustic which is called into requisition, yet it is certain that one and all of these means

were in use among the ancients, with the view of getting rid of the diseased portions of the bone, and with the advantage of exciting oftentimes healthy and vigorous inflammation in a part hitherto the seat of strumous or other chronic disease.

The truth appears to us to be that surgery has not made so much advance in striking out new plans of procedure as in discriminating the cases for which each procedure is best, and, perhaps, most of all, in determining those in which it is advisable to shun operative interference altogether.

The following are the indications which, according to Dr. Sédillot, point out the cases which he considers to be the most favourable for his method of treatment:—

"1st. Cases of suppurating osteitis maintained by the presence of sequestra, or consequent upon the elimination or extraction of these foreign bodies.

"2nd. Cases in which a sequestrum, embedded and retained in contact with osseous structures inflamed and carious, brings on grave symptoms, and demands prompt and energetic surgical intervention.

"3rd. The fatty ramollisements, with partial suppuration of the spongy tissue of the bones, and particularly of their extremities.

"4th. Purulent infiltrations, deep or central caries, certain forms of osteo-myelitis, cases of osteitis, either acute or chronic, where the symptoms are sufficiently grave.

"5th. Tuberculization with excavation and partial destruction of the extremities of the bone; fibrous, vascular, and encysted tumours of bone.

"6th. Enchondromata limited to a part of the length of a bone.

"7th. Even in cases of articular resection much loss of substance may be avoided by 'Evidement.'"

Dr. Sédillot thus describes his method of operating:—

"A longitudinal incision is first made, engaging as much as possible the fistulous trajets, and at a point where the bone is most superficial, most accessible, and most removed from vascular and nervous trunks. The soft parts and the periosteum are next divided as far as the limits of the osseous lesion. Two other incisions at right angles to the extremities of the first serve to form two flaps, more or less prolonged, according to the surface which it is necessary to lay bare. These flaps are turned back on each side with their accompanying portions of periosteum, carefully separated from the subjacent bone.

"In other cases we form a single oval flap, falling again over the wound by its own weight, as we have established in our method of amputation. In other patients we confine ourselves to a simple linear

incision, slightly bent at its extremities, and we may add that all these forms of incision are applicable to exceptional indications.

"The bone thus laid bare and already affected with fistulous openings, with loss of substance more or less extensive, separated by intermediate bridges, infiltrated, softened, hollowed out by suppuration or caries, is forthwith attacked by the gouge, the chisel, and the mallet. The gouge is particularly useful for 'Evidement,' and we have had some of them constructed in the form of worm screws or augurs of various models, and fixed in wooden handles so as to be worked by the hand without percussion. The bones often offer so little resistance, especially in the interior of their articular extremities, the excavation of which we have effected in certain cases, that the employment of this instrument is very convenient, and frequently is sufficient to complete the operation. The chisel is reserved for section of the osseous bridges, and to make even the borders of the wound; various kinds of saws can also render good service. Thus we penetrate into the medullary canal, digging and scooping out so as to remove all the altered portions, and reduce the bone to a peripheric shell of healthy tissue, which preserves its form, its dimensions, and its relations. The periosteal investment, the tendons, the muscles, and ligaments are completely preserved. . . . . The 'Evidement' completed, we fill the cavity of the bone and the external wound with soft charpie, and do all we can to prevent the retention of the liquids and the terrible complications which result therefrom."

We leave our readers to decide whether there is, after all, anything in the practice here described very different from what they have seen done over and over again, before Dr. Sédillot published his first memoir. Yet, although we cannot yield to the author the merit for originality which he would claim, we are very far from implying that his work is not a valuable one. Cases are always interesting, and he has brought together many most important cases. There is much critical acuteness in his observations, and his critique on the subject of sub-periosteal resections and osteoplastie, by the displacement of periosteal flaps, contains much which will amply repay perusal.

1. *A Practical Treatise on Bright's Diseases of the Kidneys.* By T. GRAINGER STEWART, M.D., F.R.S.E. Edinburgh: A. and C. Black. 1868. Pp. 188.

2. I.—*On Certain Points in the Anatomy and Pathology of Bright's Disease of the Kidney.* II.—*On the Influence of the Minute Blood-Vessels upon the Circulation.* By GEORGE JOHNSON, M.D. *Medico-Chirurgical Transactions*, p. 57. London: Longman, Green, and Co. 1868.

DR. GRAINGER STEWART has collected, into a handsome and well illustrated volume, his observations on diseases of the kidney, most of which have already been brought under the notice of the profession in the medical journals.

The author prefers to employ the name "Bright's Diseases," for the affections which he describes, on the ground that, while it is desirable to retain the name of Bright in connexion with the maladies, for a knowledge of which we are indebted to his sagacity, it is also necessary that they should be fully recognized as distinct morbid conditions. He classifies them under three forms:—

"1. *The inflammatory form*, of which there are three stages:—
"*a* That of inflammation.
"*b* „ fatty transformation.
"*c* „ atrophy.
"2. *The waxy or amyloid form*, of which also there are three stages:—
"*a* That of degeneration of vessels.
"*b* „ secondary changes in the tubes.
"*c* „ atrophy.
"3. *The cirrhotic, contracting, or gouty form.*"

Dr. Stewart excludes as spurious from his classification the congestive form described by Frerichs, Rosenstein, and others. This limitation seems to us somewhat arbitrary. The morbid state of kidney brought about by chronic congestion, and accompanied by albuminous urine, has a clear right to be included with the forms described by Dr. Stewart, with which it has certainly a pathological kinship.

The first stage of Dr. Stewart's first form corresponds to the acute stage of the tubal inflammation, in which the kidney is congested, often red, and usually somewhat enlarged.

The second stage, or that of fatty transformation, corresponds to the large white kidney; and the third stage corresponds to the small, smooth kidney of other authors.

We do not believe that the present state of our knowledge enables us to affirm the invariable occurrence of an inflammatory process as an antecedent of the stages described as the second and third. That inflammatory action is often the starting-point of the disease is undoubted, but that in many cases no evidence of previous inflammation is to be met with is, we think, equally certain; the changes in many instances presenting, from the outset, more of the characters of degeneration than of inflammation.

In the treatment of this form of disease, the author advocates the employment of diuretics in accordance with the views which are generally entertained in Edinburgh, and he recommends that the patient should be encouraged to take as much water as possible. He seems to attach very little importance to the employment of purgatives, and to the use of diaphoretics.

"As to the rationale of these different plans of treatment, the leading idea of those who exclusively employ cathartics and diaphoretics is, that they relieve the system of water and urea, while the kidneys are allowed to rest; and this is deemed by them of great importance, inasmuch as it is assumed that rest is an essential point in the treatment of inflammations, and stimulating inflamed kidneys to increased action is in direct opposition to this general principle. But experience has abundantly proved these views erroneous, and has fully established the value of the treatment which the pathology of the disease suggests. The danger to life results from the occlusion of the uriniferous tubules, obviously then, the clearing out of these tubules must be desirable. If they be well cleared out, the kidney has a much better chance of being restored to a healthy state. I have satisfied myself that, when the old disorganized epithelium of the tubules has been removed a new epithelium is formed; but such a formation cannot take place unless the old be carried away. It thus appears that, even if it were possible to eliminate by the bowels or skin the amount of water, urea, and other urinary ingredients which should naturally be passed off by the kidneys, it would afford no ultimate gain to employ this method, for, the renal tubes remaining obstructed no new epithelium could be produced, the old structures, which were not washed away by streams of urine, would be slowly absorbed into the system, and tubule by tubule the organ would atrophy. On the other hand, if, by the action of digitalis, or oil of juniper, or cream of tartar, we can lead to a copious transudation through the vascular tufts of the

Malpighian bodies, we wash away the morbid material which obstructs the tubules, we give the kidney the opportunity of forming new epithelium, and of returning to a normal condition."

On this subject we would observe that the production of an increased transudation through the Malpighian capillaries is not, by any means, so simple and mechanical a matter as Dr. Stewart's remarks would imply. These vessels are, in the early stage of the disease under consideration, gorged with blood, dilated, and probably weakened. The fluid which they furnish is highly albuminous, and often mixed with blood.

It may be fairly taken for granted that increased arterial pressure would lead to the escape of a fluid still more highly charged with albumen, and probably also to rupture of some of the vessels, and consequent extravasation of blood. Now that hemorrhage into the tubules is likely to be followed by more serious injury to the secreting structure than the presence of the shortlived products of the inflammatory process, will hardly be denied. Dr. Dickinson, himself a supporter of the diuretic plan of treatment, admits that hemorrhage is a rather frequent concomitant of the extraordinary mode of managing the disease advocated by him—namely, the administration to the patient of considerable quantities of water. Besides, an increased flow of water through the kidney, if it were practicable to bring it about by increased vascular pressure, would tend to stimulate the functional activity of the gland, as it does in health, and thus further irritate an organ already in a high state of irritation. Surely both experience and common sense are opposed to any measure calculated to add to the congestion of an already congested organ, or calculated to throw any strain on a part which is weakened by inflammation. It must be remembered, in addition, that the draining off of the water of the urine being the sole function of the Malpighian capillaries, although probable, is by no means certain. Kölliker's observations, which have been supported by recent investigations, point to the possibility of the solids of the urine being in part secreted from them. The deliberate administration of large quantities of water to patients whose organs are already overburdened with fluid, certainly appears to us to be a practice which can be dictated only by theoretical considerations, and which is not likely to commend itself to the judgment of the profession.

On the subject of the amyloid, or waxy form of Bright's

disease, the observations of the author are of much interest. Following Virchow, he regards the vessels as the first of the anatomical structures of the kidney to become affected with the amyloid change. In his recently published paper, to which we shall have afterwards to allude, this history of the process is denied by Dr. Johnson, who states that in the early stage of the waxy or amyloid degeneration, the arteries are either unchanged or simply hypertrophied, and that it is only in the advanced stages of the disease that the small arteries and the Malpighian bodies present evidences of the amyloid change, which he believes to be due simply to infiltration of albuminous or fibrinous material into the walls of the vessels. So long as the vessels alone are affected, Dr. Stewart states that the kidneys are unchanged in bulk, but that when the second stage, or that of transudation into the tubules, is reached, the organs present an augmentation of size. This increase he regards as dependent on the distension of the tubules by a material which somewhat resembles the amyloid substance, but which does not exhibit the red colouration on being treated with iodine, which is so characteristic of that substance. The author does not appear to have met with cases such as have been described by Dr. Dickinson, in which almost the whole of the substance of the kidney presents the iodine reaction.

Dr. Stewart lays much stress on the increased quantity of urine in cases of the amyloid kidney. In all of the cases observed by him, polyuria was observed, except where severe diarrhea was present, or where there was inflammation of the tubules, or syphilitic deposit in the stroma of the organ.

With regard to the cause of the amyloid degeneration, the author gives as the result of his experience, that in 18 cases of the disease, in which *post mortem* examinations were made, and of which the antecedent history had been carefully recorded, 7 were certainly, and 1 probably, syphilitic; 4 presented pulmonary tubercle; 2 caries of bone; 1 chronic rheumatism; 1 cancer; and 2 stated that their illness had not been preceded by any particular disease. He justly observes that these cases show the incorrectness of the theory advanced by Dr. Dickinson—of the dependence of the amyloid degeneration on suppuration, for in only six of these eighteen cases had suppuration been present.

The author discusses the mode of production of the amyloid material, and, as we think rightly, is in favour of the view that it is a true degeneration—a metamorphosis of tissue—and not a

deposit from the blood. The following remarks on this subject are eminently judicious and cogent:—

"In seeking to solve the question, it is important to distinguish between the waxy degeneration proper and the secondary deposit of fibrinous material which results from it. That it is not an infiltration will become apparent if we consider the parts it affects. We have seen that it affects the cells of the liver. This might well be the result of infiltration, for we constantly see the same structures loaded with fat which has been poured out from the blood. But far more generally throughout the body it affects the small arteries. How is this to be explained on the infiltration theory? How can it happen that the small arteries—nay, the small arteries of certain organs—nay, the middle coats of the small arteries—should be the chosen seat of deposit of a material poured from the blood? If it be poured out from the blood, why does it so generally confine itself to the walls of arteries and unstriped muscular fibre? Why does it not infiltrate the parenchyma of organs? Why does it, in the intestine, as it flows from the blood, confine itself to the walls of small vessels, to the muscles of Brücke, to the epithelium, why does it not pass out among the cellular tissue of the villi and become deposited there? These questions can scarcely be answered by those who hold the infiltration theory.

"On the other hand, how exactly the characters correspond to those of the degeneration—certain tissues always primarily affected, those tissues presenting every degree of alteration, from the slightest to the most distinct, the surrounding parts remaining unaffected. The closest analogy exists between what is seen in this, and in the atheromatous and calcareous degenerations, the former affecting the inner coat of arteries, and especially the deeper layers, the latter, when primary, affecting the middle coat. Both are independent diseases originating in the tissues, not even secondary results of infiltration."

Much difference of opinion exists regarding the true nature of the morbid change in the granular, red, contracted kidney. In these countries pathologists agree in regarding it as a form essentially different from the large, white kidney. In Germany, however, this opinion is by no means universally entertained. Frerichs, for example, looks upon it as merely a further stage of the large kidney. Dr. Grainger Stewart, who advocates the independence of the two forms of disease, follows Virchow in regarding it as the result of diseased action affecting the interstitial connective tissue, which is found in the kidney, forming a matrix for the tubules. The same view has been strongly urged by Dr. Dickinson in his work on "Albuminuria," and by other pathologists,

and the disease has been regarded as presenting a close analogy to cirrhosis of the liver. Dr. Stewart considers the term cirrhotic kidney as the most appropriate name for the disease, and defines it as consisting essentially of an hypertrophy of the connective tissue of the organ, and a consequent atrophy of all the other structures. The cause of the hypertrophy he does not attempt to explain.

In opposition to the view of the dependence of this form of renal affection on changes in the interstitial tissue, we have the opinions of Dr. George Johnson and of Dr. Beale. Dr. Johnson, whose views on any question connected with renal pathology are entitled to the greatest weight, states that the origin of the diseased condition is to be looked for in changes commencing within and not without the tubules, and that the primary phenomenon is a disintegration of the glandular epithelium. He argues also that the marked vascularity observed in kidneys the subjects of this change, a vascularity to which they owe the name of red granular kidney, is against the idea of an intertubular deposit which might be fairly expected to cause an opposite condition—namely, a state of anemia.

Dr. Beale, who holds that the generally accepted interpretation of cirrhosis of the liver, as caused by the contraction of Glisson's capsule, is erroneous, states, in his recent work,[a] as the result of his investigations, that there is really no connective tissue present at all in the cortical substance of the kidney, apart from the walls of the tubes and capillaries. The tubules and vessels mutually support each other, and any matrix, by increasing the distance between the blood and the secreting cells, would only serve to embarrass the action of the gland. What has been described as connective tissue he believes to be the residue produced by wasted and shrivelled secreting tubules, which is found lying between tubes and vessels which have not undergone change. It is evident that much further investigation is necessary before this question can be definitely settled.

There can be no doubt, we believe, with regard to the marked clinical differences which exist between the cases in which the contracted kidney is found and those which depend on the first form in Dr. Stewart's classification. The copious urine, the slight deposit, the scanty tube-casts, the comparatively small amount of albumen, and the frequent absence of dropsy in the cases of granular

[a] "Kidney Diseases, Urinary Deposits, and Calculous Disorders." London: Churchill. 1869.

kidney form a sufficient body of signs to enable the one affection to be discriminated from the other, with a fair approach to certainty.

An interesting chapter is devoted to the subject of acute atrophy of the kidney. This formidable disease is regarded by the author as occasionally occurring as a primary affection in the kidney, independently of acute atrophy of the liver, with which it is sometimes associated. The following are the characters of the kidney in this affection:—

"The characters of the kidney in both sets of cases are as follows:—They may be of the natural size, rarely somewhat enlarged, and in most cases smaller than normal. I have found the organs to weigh together between 6 and 7 oz. They are flabby and congested, and sometimes blood is extravasated in the cortical substance. The cortical substance, and, to a less extent, the cones, present a dense consolidated, sometimes a sebaceous-looking appearance.

"On microscopic examination, the tubules in the cortical substance, and frequently also in the cones, appear opaque, as if distended with fine injection, and when a higher power is used, a series of changes may be traced identical with those which we find in the cells of the liver in cases of acute atrophy. Some are opaque, swollen, and cloudy, their nuclei obscured by a brownish material, which is, however, albuminous in character, clearing up under acetic acid. Others are crowded with fatty globules of various sizes, others are so broken down that they are represented only by molecular *debris*. In transverse sections of the tubules these changes may be particularly well seen. The Malpighian bodies present no abnormalities, excepting that they are sometimes congested, and sometimes the seat of extravasation."

We have by no means exhausted the points of interest in this work. Although differing on some points from the author, we can recommend his work as an excellent treatise, deserving the attentive study of every physician who desires to be acquainted with the latest views on this interesting and important class of diseases. The illustrations are very good, and the work is altogether highly creditable to its author.

In the able paper by Dr. George Johnson, of which the title is quoted at the head of this notice, and to which we have already alluded, the author draws attention to the fact already noticed by him as well as by other observers, that in Bright's disease the walls of the small renal arteries are found to be remarkably thickened. This thickening he believes to be caused by a real hypertrophy of their

muscular coats, and he has found it not only in the renal, but in other arteries, for instance, in the pia mater, in the intestine, and in the small subcutaneous arteries of the back of the hand.

The following quotation expresses his view of the way in which the hypertrophy is brought about:—

"Having recently been engaged in making a careful revision of the morbid anatomy and pathology of Bright's disease in its various forms and stages, I believe that I am now in a position to give the true physiological explanation of the hypertrophy of the muscular walls of the small renal arteries, which is so constant a phenomenon in the advanced stages of all the forms of chronic Bright's kidneys. My explanation is this:—In proportion to the destruction of the renal gland-cells, and the consequent diminution of the secretory power of the kidney, there is less demand for blood to be acted upon by the gland; the small arteries consequently contract upon their contents so as to maintain the balance between the blood supply and the diminished secretory action of the kidney. This continued over-action of the small arteries in antagonism to the heart results in hypertrophy of their muscular walls. I believe that all the facts will be found to harmonize with this theory.

"That the thickening of the walls of the small renal arteries in these cases of chronic Bright's disease is a genuine instance of hypertrophy of muscular tissue is indisputable. The two layers of fibres—an inner longitudinal, and an outer circular—retain all their characteristic appearances, and are simply increased in thickness, while the arteries, being elongated as well as thickened, often become more or less tortuous. It is equally indisputable that hypertrophy of muscular tissue implies long-continued over-action of the tissue in question. Over-action of the muscular walls of the small arteries, of necessity, diminishes the supply of blood. And it seems probable that the diminished blood supply is the result of a beneficent compensatory action. For since a kidney whose secreting structure is partially spoiled by disease is incapable of acting upon the same amount of blood as a healthy gland, it is likely that an undiminished supply of blood to a diseased kidney would tend to embarrass the organ, through engorgement of its capillary vessels, while more or less of the blood would pass through the kidney without being freed from those peculiar constituents which it is the function of the gland to secrete."

It is an obvious objection to Dr. Johnson's theory that, if the hypertrophy of the arterial walls tends to diminish the supply of blood to the organ, it completely fails in its object according to Dr. Johnson's own showing, for the granular kidney retains, he informs us,[a] its vascularity even when the disease has reached a very

[a] P. 58.

advanced stage. This he urges as an objection to the theory that there is a morbid increase of the fibrous stroma of the kidney, while in reality the fact tells with equal force against his own view.

The small arteries are no doubt under the control of the nervous system, and by their power of altering their calibre they certainly control the supply of blood to the different organs. Dr. Johnson believes that, when from any cause a portion of the secreting structure of the kidney is rendered unfit to discharge its function, a stimulus is conveyed to the small arteries through the nerves from the capillaries, and that in obedience to this stimulus they contract and so diminish the amount of blood furnished to the gland.

It is by this lessening of the calibre of the small arteries, and by the consequent increased resistance presented to the efforts of the heart, that Dr. Johnson explains the hypertrophy of the left ventricle, which is so frequently found in chronic cases of Bright's disease. The connexion of hypertrophy of the heart with disease of the kidney was noticed by Bright himself, who suggested that its explanation might be found in the altered quality of the blood, either injuriously stimulating the heart itself, or bringing about such embarrassment of the capillary circulation as to render more forcible cardiac action necessary for the carrying on of the circulation. The opinion of Traube has, however, been gaining ground, according to which there is increased tension of the arterial system depending, partly on the diminished flow of blood from the arteries into the veins, partly on the diminished separation of fluid from the blood, both of them being caused by the contraction of the renal tissue. Both Bright and Traube, it will be observed, regard the capillary circulation as directly affected. Dr. Johnson regards it as only indirectly interfered with.

As a question of pathological probability, we would be inclined to regard it as highly unlikely that a stimulus of the kind referred to by Dr. Johnson should be followed by hypertrophy. Analogy would rather lead us to expect a continuous over-action of the vessels, to be followed by atrophy and degeneration; but a question of this nature is not to be argued on grounds of probability. The great point to be ascertained is, whether the arteries are really hypertrophied or not. Dr. Beale[a] denies that the thickening of their walls is hypertrophic. What does occur, he says, is a degeneration of the muscular fibre cells into a fibrous tissue, which is utterly devoid of contractile

[a] Loc. cit., p. 71.

power, and a considerable thickening of the connective tissue external to the muscular coat. Accordingly, he refuses the name of hypertrophy to this change altogether, the increase of substance not being caused by an increase or development of the natural elements of the part, but being the result of the formation of an abnormal tissue, incapable of performing the healthy functions of the original structure.

It is evident that further investigations are required to elucidate this important subject.

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1. *The Anatomical Memoirs of the late* John Goodsir, F.R.S; late Professor of Anatomy in the University of Edinburgh. Edited by W. Turner, M.B.; with a Biographical Memoir, by Henry Lonsdale, M.D. Edinburgh: A. and C. Black. 1868. 2 Vols. Pp. 999.

2. *Man's Origin and Destiny, Sketched from the Platform of the Sciences.* By J. P. Lesley, Member of the National Academy of the United States. London: Trübner and Co. 1868. Pp. 382.

3. *Contributions to the History of Development in Animals.* I.—*On the Fœtal Circulation.* By William MacDonald, M.D., F.R.S.E.; Professor of Natural History, &c., in St. Andrews. Edinburgh: Maclachlan and Stewart. 1868. Pp. 44.

If the progress of any branch of science may be estimated by the amount of the additions to its literature, we cannot but say that Biology is advancing rapidly, as every year adds very largely to the number of works on this series of sciences. Journals, Archives, Manuals, Essays on all departments of Anatomy, Zoology, and Botany, have been pouring from the press, within the last few years, in such numbers as to render the judicious selection of suitable works, on special subjects, a matter of some difficulty, so embarrassed are we by the riches of scientific literature. Of the recent contributions to our knowledge, some few are of extreme value, others are equally indifferent. One or two, however, stand prominently in relief against the background of the general dull mediocrity; and of these, the book whose title heads our list is pre-eminently the most valuable—a book whose name alone would

serve, as a sufficient guarantee, for its admission into the library of any scientific man.

John Goodsir's name is well known to all who take an interest in Biology, as that of a skilled Anatomist, an accomplished Physiologist, a sound Zoologist, and an earnest thinker and worker; and, far more valuable than any memoir, as an evidence of his ability as a scientific teacher, he has left behind him a numerous race of thorough men of science, who owe their first and most valuable lessons in the department of Morphology to him, and who, profiting by his instructions, have done much to perpetuate the leading features of the doctrines taught by this great master.

The life of Goodsir is a story well told, and the biography, by Dr. Lonsdale, contains many interesting sketches of the distinguished galaxy of contemporary scientific men in Edinburgh, as well as of the history of recent advances in Anatomical and Biological science. We trace, with interest, the close friendship of the brother naturalists, Goodsir and Forbes, so diametrically opposite in genius and yet so united in heart. Dr. Lonsdale has done his part of the work in a way which can best be appreciated by a careful perusal of his narrative. The strongly marked lines of character, which stand out so boldly in the life of the great Anatomist, are well brought out. The active, ever restless mind, with aspirations always far ahead of his absolute work—fanciful, yet, withal, sternly practical; with as great a hatred of false science as he possessed a love of true; kindly in feeling, though sometimes failing in expression; bright and perspicuous in thought, though occasionally a little cumbered in diction; the type of a true lover of nature, whose soul and intellect outran the bodily powers in the race of life, and thus caused a sad conclusion to the story, when the overstrained nervous system made shipwreck on the rock of overwork. Goodsir, unlike too many of far inferior calibre and scientific pretensions, lived and died a Christian Philosopher, and in all his researches, in Physical science, he kept before him, invariably, the firm belief in the revelation given by God. All who knew his simple life, his unworldly disposition—capable of penetrating the secrets of nature, while indisposed and averse to the ordinary details of business—cannot fail to recognize and admire the graphic descriptions of the various scenes portrayed by his biographer, and to reverence the memory of one who was, at the same time, an honour to his country, and a giant in his

beloved sciences. The selection of his papers, made by the editors, has been careful—but of Goodsir's writings any fragments are precious, and worthy of preservation; the volumes are well got up, printed in clear, easily read type, and no expense has been spared to make them worthy of the man of whom they are but a small memorial. The title affixed to them only partially expresses their value, for they contain matter interesting to the Physiologist, the Naturalist, and the Physician, as well as to the Anatomist; and everyone interested in Biological studies, practical or theoretical, will be well repaid, for the time spent in the perusal of the work, by the amount and varied character of the information therein contained. The Essays group themselves naturally into several series. The Pathological series, including the description of the diseased Peyerean glands in typhoid fever, of the diseased structure of the liver and kidney in cirrhosis and Bright's disease, the paper on erosion of articular cartilage, on the general nature of absorption and ulceration, on the reproduction of bone, on the histology of tumours, and on the growth of new tissue in injury of the tusks in elephants, although less considerable in number and bulk than others, yet are replete with original observations, and are eminently suggestive to the practitioner.

The Zoological memoirs constitute a most valuable part of the entire collection. In the description of the remarkable aberrant vertebrate animal, the Amphioxus, written in 1841, we have an excellent account of the structure and affinities of the curious creature, to which later investigators have added little, and Goodsir was among the first to point out the relation between this remarkable adult form and the transitory condition of all vertebrates at an early stage of embryonic existence, and to show how the absence of a true heart coincides, both in the former and the latter, with the condition preceding the appearance of the visceral clefts, and thus, in the amphioxus, no sign of these fissures can be detected. The other forms of life, specially described by Goodsir, were chiefly vertebrate molluscan and entozoan; of the former class he has left us a rough outline of the myology of the fore-limb of the elephant, in which he does not mention having found the feeble pronatorteres, which has been described as present in this animal. It is likewise interesting to find that no supinator exists in it, although Professor Haughton found a true long supinator present, though modified, in the Rhinoceros.

Of Fishes, the Orthagoriscus forms the subject of one essay, and

the electrical organs of Torpedo, Gymnotus, Malapterurus and Raia (a favourite subject with him), are considered and described in an elaborate memoir, published first in the *Edinburgh Medical Journal* for 1855. The structure of the peculiar body in the skate, which is the true homologue of the electric battery in the Torpedo, and which was first described by Stark of Edinburgh (*Proc. Roy. Soc. Edin.*, 1844), and by Robin (*Annales des Sciences Naturelles*, 1847), is fully referred to, and a very succinct account is given of all that had been written on the subject of Animal Electrical Organs up to the period of the publication of the paper. The other Zoological essays on Gymnorhynchus, Tethea, Sipunculidæ, and the papers by H. D. S. Goodsir, on Crustacea and Cystic Entozoa, are very valuable, and full of important facts.

But it is mainly on the morphological and embryological matter contained in these volumes that their value depends. Such papers as the classical essay on the origin and development of the pulp sacs of the human teeth, have been long known to Anatomists, and have been studied by all who wish to become acquainted with the embryogeny of these structures; the papers on joints, and their motions and positions, are by no means as well known as they deserve; and as the researches of Henke, Langer, Meyer, and Weber are beginning to be more closely studied in this country, it is well that these philosophical essays should have a conspicuous place in anatomical literature, lest the labours of our illustrious countryman should be overlooked in the crowd. The speculative lectures on the relation of animal forms to mathematical outlines are of interest as showing Goodsir's leading idea of the æsthetic in nature, but, in an anatomical point of view, are of little practical moment.

The researches on intestinal villi are equally familiar to the histologist and physiologist, and although we know, through the researches of Brettauer and Steinach, Weber and others, many facts about the organization of epithelium, and with regard to the anatomical mechanism of absorption, which had not been fully ascertained when Goodsir wrote, yet most of the actual observations made by him are perfectly reliable, and as accurate as any that have been made in more recent days.

The remaining essays, which make up the great bulk of the volume, consist of two groups. Those dealing with homologies, and those with the position of man in nature. In the first group

of papers we can recognize at a glance that Goodsir believed fully in the consistency of Teleology with a correct Morphology, that they were not mutually subversive, as the modern Darwinian school assert; and he attributed the present inclination to disbelief in Teleology to a narrowness and want of comprehension in understanding nature. The law of typical forms was fully understood by him, and is clearly expressed in several parts of his collected writings; and for the components of the segmented bodies of the higher animals, he has devised a series of names which should, at least in part, be adopted into anatomical literature. The hard framework of the entire body, in this system of nomenclature, is a sclerome; the various primal linear segments of the body are somatomes; the entire body of a segmented creature is an entomosome; and the skeleton of each somatome is a sclerotome. He has suggested for the sub-division of the muscular, nervous, and vascular system, the names, myome, myotome, neurome, neurotome, hæmome, hæmatome; but these words are much too closely allied to myoma, neuroma—and to the surgical mind the second series will at once, as suggested by Professor Owen, call to mind the names of articles in an operating case. These names are thus objectionable, and the words, myozoon, neurozoon, hæmozoon, splanchnozoon, elsewhere proposed, seem to us preferable for ordinary use. That the muscular system is composed of serial repetitions is a truth of which he seemed to possess an idea, although he scarcely developed it except in the form of the notes at page 451 in Vol. i. In these notes he lays down the principles, that the muscular system is segmented—that the myozoon, which at first is simply segmented transversely, becomes converted during development into a more complex system of forms. This system he arranges thus—1st, a layer on the inner aspect of the hæmal chamber; 2nd, a layer external to the sclerome; 3rd, limb-muscles, which are modifications of the first and second series. The first he again subdivides into—1st, a layer lining hæmal arches; 2nd, prevertebral; 3rd, such prevertebral muscles as are attached to the limbs. The second group he divides into—1st, dorsal; 2nd, intercostals; 3rd, rectus abdominis; 4th, oblique abdominals; 5th, the rest of the limb-muscles; 6th, cutaneous muscles. It will be obvious that this arrangement is one not consistent with the primal idea of an entomosome, as the leading feature of the somatomes of any organism is serial homology, and there is not, in the classification proposed, any reference to the homotypical relation

subsisting between the somatomes in series; the intercostals and obliques are plainly in corresponding series, as has been remarked by Henle and others, and with a little care the muscles of the trunk are reducible to segments corresponding with those in the typical vertebra. The idea of antithesis, or dorso-ventral symmetry, was not entertained by Goodsir, although in no class of animals can that principle of construction be more easily demonstrated than in his favourite class of fishes, but neither this form of resemblance nor true serial homology are regarded in his provisional classification. Taking the segments of the typical vertebra of Owen as our basis of nomenclature, the body muscles are easily resolvable into the following series:—

1. Inter-neuro-spinous. Interspinales, spinalis dorsi. Rectus capitis posticus major and minor.
2. Inter hæmo-spinous. Rectus abdominis. Sterno-hyoid. Genio-hyoid.
3. Inter neurapophysial, external. Splenii. Serrati.
4. „ „ internal. Iliocostalis, longissimus dorsi trachelo mastoid, &c.
5. Inter hæmapophysial, external. External intercostals and oblique, and scalenus anticus and posticus.
6. Inter hemapophysial, internal. Internal intercostals and oblique, scaleni minimus and medius. Anterior belly of omo-hyoid.
7. Basio hæmopophysial. Transversus thoracis posterior, diaphragm, transversalis abdominis. Recti capitis antici, longus colli.
8. Basio-neurapophysial. Rotatores spinæ.
9. Spino hemapophysial. Pyramidalis abdominis. Sterno thyroid. Thyrohyoid cricothyroid.
10. Spino neurapophysial. Multifidus spinæ, semispinales, obliquus superior capitis, complexus.

These type series are better seen in reptiles than in mammalians, and are very liable to variation by fusion and specialization in the atter, and hence their serial nature is often obscured. The vexed question of serial homologies in the muscles of limbs forms the subject of another short essay. With his usual originality, Goodsir framed a system of relations of limb muscles, which differs in many respects from all its predecessors. Taking as his unit, or starting-point, the similarity of the quadriceps extensor and the brachialis anticus, he homologates the front of the arm and

of the thigh, thus following Professor Owen's theory as propounded in *The Nature of Limbs*. This hypothesis he carries to an extreme, and in following it out he suggests that the humeral and femoral trochanters are alternately related to each other—the greater femoral resembling the lesser humeral, and *vice versâ*. This view, proposed by him in 1858, was independently suggested by Huxley in the *Hunterian Lectures* for 1854 (*Medical Times and Gazette*, p. 204, 1864), and has been warmly advocated by Mr. Mivart in his admirable monograph on the Myology of Echidna (*Trans. Linnean Soc.*, Vol. xxv., Part 3). This theory was arrived at by Goodsir in the course of allocating the muscles to their respective places while reasoning on human anatomy alone; Mr. Mivart and Professor Huxley base their view upon comparative anatomy, and upon the osteological characters of the limbs of a few genera. "When the limbs are placed with their flexor surfaces inwards and the pollex and hallux, radius and tibia forward, we find in the humerus two prominences (the two tubera), one on the radial side of the bone, and projecting more or less forwards, the other on its peroneal side, and projecting more or less backwards; in fact, it becomes evident that the radial tuberosity is the homotype of the tibial or smaller trochanter, and, on the other hand, that the ulnar (or lesser) tuberosity is the homotype of the peroneal (or greater) trochanter" (Mivart, *Loc. Cit.* p. 399).

The resemblance in Cholœpus, Bradypus, Galeopithecus, and Pteropus, of the humerus and femur, in accordance with this theory, is certainly close, but the evidence against is at least equal to, if not greater than the evidence in favour of the theory in general; and, in the first place, we must bear in mind that the two limbs, fore and hind, are placed not in corresponding but in reversed positions, as stated by Humphry and Vicq d'Azyr. This can be established—first, from the adult arrangement of limbs in higher vertebrates, where we have the knee and elbow, the wrist and ankle-joints in undoubted opposition in obliquity and action; secondly, we have the condition of the limbs in the early embryo—for all physiologists know that when the extremities first appear they are primarily arranged with their axis parallel to the plane of the chorda dorsalis, and when they leave this original position they assume flexures in opposite directions, and at no time in the embryonic life of a mammalian fetus do the extensor and flexor aspects of the limb alternately correspond. But it has been

suggested by Professor Owen that we may obtain light on the subject by examining the limbs of the Amphibia, in which the reverse actions referred to in higher mammals are not to be positively ascertained; but we claim, on the grounds given above, that the absence of the reversal of flexure in these amphibians should not be taken as conclusive evidence, unless the anatomical structure of the limb bears out the theory in other respects. Now it is necessary to fix some fundamental facts to guide us in determining our homologies, and there are few, indeed, of these that are universally admitted. As fasciæ are fully as constant as any tissues in the body, we have an admirable point of commencement in the relation of the aponeurotic investment of the hip to the most superficial of its muscles; this fascia attached along the curved vertebral edge of the postero-basal bone of the limb (Iliac crest or vertebral edge of scapula), passing back in one case, forwards in the other, according to hypothesis, split to enclose the first limb-muscle. This muscle in both limbs is coarse and fasiculated; in both, is inserted into the outer side of the primal limb, bone, femur or humerus, and in some cases, as in the Armadillo, there is a singular uniformity of insertion in the two. Now muscular actions are determined by their insertions, so we might expect to find that in this respect homotypical muscles resembled each other more closely than in point of origin, but even in this more variable condition the first pair of limb-muscles correspond, both arise from the outer part of the ilium or scapula, and as a rule, far back both are often continuous to the spine (the deltoid through its segment the trapezius, the gluteus maximus, or ectogluteus, by its secral and coccygeal fibres). In action, these muscles likewise agree, so their points of unity are legion.

If this be conceded, a great point is gained. This muscle overlaps constantly the flexors in *both* limbs, and its insertion separates the extensor from the flexor plane. The coracoid bone, the undoubted homotype of the ischium, under cover of the border of this muscle, gives origin to the biceps, and its homotype the tuber ischii exhibits the long head of the biceps cruris in a corresponding place. The more closely we examine the muscles of the flexor group, the clearer do we see their relative affinities (see *Journal of Anatomy and Physiology*, N. S., Vol. i., p. 283). And even in the group of animals on whose structure alone, according to Professor Owen, the foundation of a correct homology can be based, we see the same characters. In the Salamander the biceps

is a coraco-radial muscle, and in the Triton and Proteus a similar arrangement occurs. The triceps in these animals and in reptilia distinctly retains its true extensor character. Those who are interested in following out the study of reptilian myology, will find the recently published essay of Rüdinger—*Die Muskeln der Vorderen Extremitäten der Reptilien und Vogel, &c.*, published at Haarlem, 1868—an extremely valuable assistance in pursuing the examination of these most important creatures.

It will of course be at once apparent, that if we believe it to be demonstrable that the extensor side of the fore-limb coincide with the extensor aspect of the pelvic limb, and that the two extremities are in reverse positions with regard one to the other, as a necessary consequence, parts will fall into their respective places without the necessity of such a change in position as the theory of alternate relationship of tuberosities would necessitate. The meso-gluteus thus becomes, as Goodsir indicated, the representative of the infraspinatus, the ento-gluteus accords with the supraspinatus, the pyrifomis with the protean shoulder muscle, masto-humeralis, trachelo-acromial, levator claviculæ or humeri, the obturator internus with the pectoralis minor (see *Journal of Anat. and Phys.*, Vol. i., p 316), the obturator externus with the subclavius, the scansorius with the subscapulo-humeral, and the tensor vaginæ femoris with the teres major.

This scheme of homologation is one more consistent with comparative anatomy than the theoretical system of Goodsir, that the iliacus represented the deltoid, the gluteus minimus the teres minor, the psoas as levator humeri, the pectineus as clavicular fibres of the deltoid, and the adductor longus as the great pectoral, and obturator internus as subscapularis. And it will be seen that even the adoption of the alternate relation of trochanters and tuberosities does not settle the question of the homologies, even of the most contiguous muscles; for, while Goodsir considers the iliacus as the deltoid, Huxley, upon the same ground, considers it to represent the supraspinatus.

A serious weakness in Goodsir's theory is his attempted homologation of the clavicle and the pubis, as putting the bones in the position suggested by the theory of reversed position, we can see at once that this relationship is fallacious, and by getting rid of it altogether we decidedly simplify our homological studies. Our author does not lay much stress on the distinction between cartilage bones and membrane bones, as he says—" Why certain

bones originate in a fibrous matrix, why others originate in cartilage, which has been previously formed in the same matrix . . . . cannot be legitimately put in opposition to the unity of the fully developed sclerome" (Vol ii., p. 95). We have, however, sufficient reason, from comparative anatomy, to consider the pubis as similar to the coracoid of the monotreme, and of some reptiles. This is the conclusion of Professor Huxley, and we consider it to be one warranted by our observations. What the clavicle really is we cannot readily determine; it certainly seems *not* to be Poupart's ligament, as stated by Huxley, but there is one structure which presents to us some of its characters, especially with regard to its homologous position. It will be remembered that in Meckel's ideal system of relationship, which has been of late adopted by Dr. Burt G. Wilder (*Proc. Boston Soc. of Nat. Hist.*, Vol. i., p. 46), the trachea is represented by the urethra, the mammæ by the testes, the thyroid body by the prostate, and the lungs by the kidneys; now passing on the hemal side of the urethra, we find in man, and most animals, as the hare, armadillo, monkey, &c., a distinct subpubic ligament, holding the same position to the ischium which the clavicle of the ornitho-hynchus bears to the coracoid bone; now this may be the clavicle—this is merely a speculation, but all truth usually is first recognized in a speculative form, and the fact of its being merely hypothetical should not cause us to reject what may prove to be a demonstrable truth.

In other morphological papers, such as the classical essay on the construction of the vertebrate head, and the paper on the relations of the nervous system in annulosa and vertebrata, we have many most important truths elucidated, and though we may not agree in all points with him, yet we cannot help following him part way at least in his reasoning. When discussing the morphology of limbs and especially with reference to the thoracic extremity, he lays special stress upon nervous connexions as indicating somatomic affinities, and thus differs from Professor Owen's view of the upper limb as a diverging appendage from the occipital vertebra. Professor Owen, on the contrary, regards nerves as secondary in importance in settling points of homology. It is certainly a very singular fact, that in man, and most mammalians whose upper limb possesses five digits, there should be five nerve cords from five different vertebral interspaces supplying the extremity, and in such animals as the skate, in which the upper limb possesses a multiplicity of fingers, there should be a multiplicity of nerves, but

whether this is regulated by mere convenience, or by a deeper principle in morphology, we are not in a position to decide at present.

Goodsir's national training shows itself clearly in his lectures on the dignity of man, which are leavened with the strict belief in revelation, and the solid argumentative and logical style which is so characteristic of a large school of Scottish philosophers. The idea of man's origin by development is rejected on the ground of his perfection or completeness in himself; and our author on this ground, as well as upon the ground of his higher nature, the moralité and religiosité of Quatrefages, raises him out of the limits of the animal kingdom into a special place by himself. Species are regarded by him as fixed, each animal possessing a characteristic *psyche*—a form of instinctive consciousness which constitutes the entity of the animal, and which remains unchanged through the varying vicissitudes of corporeal waste and regeneration. These theories and modes of reasoning we can scarcely accept unchallenged, even as the dicta of such a man.

It is a little variety to turn from the solid and philosophic writings of Goodsir on this subject to the light, flippant, self-sufficient lecturer, who has brought out a course of lectures intended to explain everything mundane and supra mundane. These lectures were delivered before the Lowell Institute in Boston, in 1865, and are written in a clever, easily read, but rather loosely arranged form. Mr. Lesley has the happy knack of writing on a subject with the determination of carrying everyone away with him—a style good for a lecturer, but one which always sets a true philosophic thinker on his guard. Nothing is closely reasoned out, and much is left to the logical instinct, he says himself very fitly. Eleven lectures make up the volume. Commencing with a review of science in general, and a very good contrast of ancient and modern sciences in particular, he proceeds to denounce the Mosaic narrative as the source of all our errors in modern science, and says that the Mosaic narrative is of the same type as the Vedic, Scandinavian, or Gnostic cosmogony. "It (Geology) has escaped fully and finally from the subjection to the Creed. Sindbad has made the little red man of the sea, who sat so long on his shoulders, tipsy with new wine, tossed him to the ground, and crushed his wicked old head with a stone. Sindbad is free!" Moses to him is an enthusiast—a dreaming poet—and

creation is a myth, for the world has been thoroughly developed to its present state—Nebulæ into globes, inorganic matter into organic, which changes, Darwinically, from monad to monkey, and from monkey to man; the last being originally low in intellect and savage, but by his own powers developing first a reasoning mind, a system of architecture, of speech, of written language, finally of religion—and all this lasting over countless ages of years; and in this last department, our author believes that religion was first devised by man as a system of worship of the dead, then this combined with a system of worship of nature became converted into a theism, which arrives at perfection in Pantheism. And yet the author calls himself in many places a Christian, and professes to be very jealous for the maintenance of pure and undefiled orthodox religion!! Our author's ingenious efforts to superannuate Moses would sometimes be amusing if they were not blasphemous, and his philology is most astonishing in its dealings with language, which proves remarkably flexible in his hands. His ideas of the exaltation of his own species may be judged from such passages as the following:—"Language is no criterion, for every animal has a language of its own. The sense of the ridiculous is possessed by brutes who laugh with their eyes or tail if not with their whole face, as man does. The faculty of worship *in itself* is no distinction, for the devotion of a dog to his master, of a lover to his mistress, of a Christian to his Saviour, of an angel to his God, has the same essential root as far as we can see." But enough of this; it is a pleasure to turn back to Goodsir, after wasting time in perusing this mass of science, falsely so called, in which truth and hypothesis are blended with an ingenuity of intellect which renders it hard to separate the good from the bad. It is a great pity that the *cacoethes scribendi* in some men is so over mastering that they bring into being books for which they are compelled to apologize. Fortunately some little sense of restraint seems to be left in the mind of the author, for "the twelfth lecture was never written out, and is committed for the present to the imagination of the reader, with the suggestion that it would better justify one portion of the title chosen for the book than anything absolutely between its covers." Our American friends are in many things a-head of us, and their go-a-headism is proverbial; but Mr. Lesley has far eclipsed the *New York Herald*, or any other authorized *advanced* American paper. One can have some respect for a man who honestly states his opinions openly, no matter what

these opinions are, but for a man, making a loud-mouthed profession of Christianity, to come forward teaching doctrines of infidelity, culminating plainly in the developmental apotheosis of the human race, and this under the guise of natural science, is inconsistent in the extreme. As far as it goes Mr. Lesley proves several points which he attempts to ridicule; and in his efforts to overthrow the faith of the greatest part of modern Christendom, he has accumulated evidence in favour of the unity of the human race, and in favour of the credibility of those silly Jewish fables in Genesis, for which he has such a dislike, for he has accumulated all the collateral evidence in favour of the Scriptural narrative of the Deluge, the Sacrifice of Isaac, &c.—a conclusion the very opposite to that at which he wished to arrive. The only good part of the book is the portion dealing with Symbolism, and on this department of science many vastly superior works are familiar to all who take an interest in it. The Geological part is very poor, and, as it deals with subjects which have been written upon by many of the most eminent men of the present day, as Lyell, Prestwich, &c., its inferiority in point of detail and conclusiveness can be most clearly discerned by contrast.

The third book on our list is the production of Professor MacDonald of St. Andrews, known as the author of "Some Objections to the currently believed theory of the Fetal Circulation," and these he has embodied in the present brochure. This paper does not profess to be a communication of new facts, but a generalization upon the observations of others. There are many very useful and practical points touched on in the paper, which begins by a rather hurried and confused sketch of development in general, after which the author sketches the general embryonic condition of the heart and blood-vessels. The theory which he propounds is that in fetal life the blood passes through the umbilical arteries, then up the aorta to the arch, thence to the subclavians and carotids; the venous blood from the body is forced then through the ductus venosus to the umbilical vein, and thus is returned to be purified. Dr. MacDonald is not satisfied with the name branchial arches, as applied to the subdivision of the great arterial tree above the heart, and does not seem to value the evidence in favour of this nomenclature drawn from the comparative anatomy of the arterial system in fishes and amphibians; in the former of these classes there are distinct true branchial arches

of arteries, and this condition is reproduced in the immature state of the amphibians, which possesses true branchiæ at first, but which in the course of metamorphosis lose them, and have their arterial system modified so as to resemble, generally speaking, the condition in reptilia. That the human ovum passes down the Fallopian tube by the "force of the pulsation of its vascular system, within the branching villous tufts of the chorion, caused by their alternate protrusion and retraction, giving force and motion as it occurs in the ambulaeral sucking feet of the Asteriæ," p. 19), is a theory scarcely probable, especially when we consider that the Fallopian tube has a muscular coat, and is lined by epithelium, whose cilia move towards the uterine cavity. The author does not seem acquainted with some of the opinions held with regard to the decidua reflexa, as he very properly dissents from the opinion of Hunter, but does not refer to any other views, such as those so well expressed in Dalton's Physiology. He also refers the first motion of the fetus to the beginning of the sixth month, "although the mother may have felt slight flutterings earlier." On this point he differs from most obstetricians, who refer quickening to the fourth month. Taylor refers the greatest number of cases to between the fourteenth and eighteenth week after the last menstruation, and adduces one case in which a lady quickened at two months (*Med. Jurisp.* 6th edit., p. 536).

In summing up the objections to the usually received theory of the fetal circulation, he makes the following statements:—

"1st. 'That the idea of the blood going through the umbilical vein to the liver is incorrect and unnecessary, the function of the liver being to act on venous blood as a diverticulum for the secretion of bile.' The first part of this is undoubtedly a *petitio principiis*, and the last is an arguing from adult to fetal conditions. When we bear in mind the enormous proportional preponderance of the liver in the fetus, and remember that there is no channel for the passage of bile but into the intestines, and as there is only a comparatively small quantity there in the ninth month fetus, we are driven to the conclusion that the liver has another fetal function beside the secretion of bile—if so, this argument is invalid.

"2nd. 'There is no single branch sent to the portal vein from the ductus venosus.' How this can be an argument it is very hard to imagine, as according to the theory of Sabatier, as usually taught, the blood passing through the ductus venosus is on its way to the right auricle; this vessel, indeed, is one of very little importance, as in the fetal horse it is absent.

"3rd. 'The whole anatomy of the heart is erroneous, &c.' Professor MacDonald does not bear in mind that even where there is no septum, as in amphibia, the blood passes from the heart and through the round of the circulation; and the statement that 'At the early stage of development, neither the pulmonary artery nor aorta exist connected with the heart till towards the close of pregnancy, during the last month permitting the current of the blood through them in the usually described course,' is one with which few anatomists will acquiesce.

"It is subversive of all reasonable physiological inference to fancy that blood oxidized in the placenta should be blended with the impure reduced venous blood, brought by the inferior cava, and sent through the cavity of the heart filled with venous blood from the superior cava, without mixing with it, in spite of the contraction of the heart (by what force God only knows), through the foramen ovale in the auricular septum, before it is developed, into the left auricle and ventricle which has no aortic outlet. It is absurd to suppose that the impure reduced venous blood could be sent up by the aortic bulb through the carotid and subclavian arteries, &c. Such a view is physiologically absurd" (p. 38.)

Thus far, Professor MacDonald supports his theory upon one main argument, that the old theory is, in his opinion, absurd, and that as the heart is not fully developed in early embryonic life, no circulation can go on in an imperfectly developed heart. To this we reply—1st, that in reptiles and amphibia the condition described as physiologically absurd has its parallel as in these, purified and impure blood mix; 2ndly, that in the same classes of animals the ventricular heart to some extent resembles, in arrangement, the corresponding part of the fetal heart before the septum is developed; 3rdly, that Professor MacDonald, when he throws the *onus probandi* upon the upholders of the older theory, is evidently unacquainted with the writings of one of his most talented fellow-countrymen, Professor John Reid, of Edinburgh, to whose experiments in support of the received idea of the fetal circulation, we would beg to refer him, as given at p. 337 of his "Physiological Researches," published by Sutherland and Knox in 1848.

In conclusion, we would remind Professor MacDonald that, although we believe much is yet to be done in the unfolding of the mysteries of embryonic circulation, yet it is not by reviling theories as "entirely erroneous," "old established or obstinate prejudices," "crude," or "absurd," that truth is to be found—nor it is not by propounding theories unsupported (as he confesses

himself) by a single observation (p. 41) contrary to one which, maugre his own statement, has been, if not absolutely demonstrated in parts, at least has been supported by observations (see p. 11, paragraph 2).

In reviewing the works of modern anatomists, one is often struck by the great want of generalization in special departments. Now that comparative anatomy has outgrown the limits of any single practicable manual, a good comprehensive series of separate handbooks, giving details in comparative Osteology, Myology· Splanchnology, &c., not cumbered with theory, but embodying the numerous detached observations which are scattered so broadcast in our scientific journals, is a great desideratum to the student; and if our industrious and indefatigable workers would turn their attention to the collection and publication of a series of such books, they would confer a great boon on the practical science of the present day.

Lectures on the Preservation of Health. By CHARLES A. CAMERON, Ph.D., M.L., L.K. & Q.C.P.I.; Professor of Hygiene in the Royal College of Surgeons; Analyst to the city of Dublin, &c., &c., &c. London: Cassell, Petter, and Galpin. 1868. Pp. 182.

THESE lectures were delivered in the summer of last year in the theatre of the Royal College of Surgeons. They were free to the public, of whom large numbers attended, the fair sex preponderating. We presume that the influx of so large a number of ladies led Dr. Cameron to adopt a style rarely met with in medical works—namely, that adopted by writers in that department of literature termed "light." Dr. Cameron's work is, therefore, suited to the requirements of non-medical persons who are anxious to learn something relative to the laws of health. At the same time, there is much of this work which might be read with profit by the student and practitioner of medicine.

Dr. Cameron's book is divided into twelve parts, which, we believe, are nearly verbatim reports of the lectures delivered in the College. The following are the heads of the lectures:—1. On Political Medicine and Public Health; 2. On Water; 3. On the Atmosphere and Meteorology; 4. On Ventilation; 5. On Exhalations from Manufactories, Workshops, and Chimneys; 6 On

Food and Diet; 7. On Food Adulteration and Diseased Meat; 8. On Digestion and Indigestion; 9. On Ablutions, Clothing, and Exercise; 10. On the Sanitary Condition of Towns and Dwellings; 11. On Contagion and Disinfection; 12. On Vital Statistics and Sanitary Organizations. In the concluding lecture Dr. Cameron makes a forcible appeal on behalf of the poor-law medical officers, and offers several apparently feasible suggestions for the improvement of their condition. The work is illustrated, and its low price—2s. 6d.—is accounted for by the fact that it is published at the expense of the Corporation of Dublin.

A knowledge of sanitary science is now spreading among the public; and if practitioners would not be behind their patients in this matter, we strongly recommend them to read Professor Cameron's Lectures.

RECENT WORKS ON MATERIA MEDICA AND THERAPEUTICS.

1. *A Manual of Materia Medica and Therapeutics, including the Preparations of the British Pharmacopeia* (1867), *and many other Approved Medicines.* By J. Forbes Royle and Frederick W. Headland. 5th Edition. London: John Churchill and Sons. 1868. 8vo, pp. 824.

2. *The Essentials of Materia Medica and Therapeutics.* By Alfred Baring Garrod. 3rd Edition. London: James Walton. 1868. 8vo, pp. 479.

3. *Pharmacopeia of India. Prepared under the Authority of Her Majesty's Secretary of State for India, in Council.* By Edward John Waring, assisted by a Committee appointed for the purpose. India Office, 1868. London: W. H. Allen and Co. 8vo, pp. 502.

Of the three works, the titles of which head those remarks, the first two might perhaps have been passed over with the formal announcement of this re-appearance in respectively their fifth and third editions. The last, however, under any circumstances, as a new-comer, should claim more particular notice, but as the National Pharmacopeia of India, the most important of our dependencies, and as the production of the pen of Dr. Waring, the Pharmacopeia of

India claims more than a passing notice at our hands. The appearance, however, of the last edition of the *British Pharmacopeia*, to our minds, has rendered it obligatory upon us carefully to examine the pages of the first two of these works, and not to content ourselves with accepting their merits as granted, but rather to see whether they have worthily maintained the reputations won for them by former editions. First, then, for Drs. Royle and Headland's work.

The general characters of Dr. Royle's work have been so long before the public, and, indeed, have been so favourably received by them, that it would appear superfluous on the present occasion to enter very particularly into their description. Suffice it to say, that the principal contents of his work are devoted to a consideration of the operations of pharmacy, to pharmaceutical chemistry, and to a description of the several articles of the materia medica derived from the mineral, vegetable, and animal kingdoms, these latter, as they should do, constituting the greater bulk of the work. The subjects comprised in these divisions of the materia medica are discussed with reference to their natural, historical, and therapeutical considerations, and we always felt that the former of these enjoyed a wider pre-eminence in the several relations of Dr. Royle's work, to the injury of the latter. However, when he associated with himself in his labour Dr. Headland, a gentleman who had made the question of therapeutics his especial study, we anticipated some improvements in this department, and although our expectations were disappointed in the last edition of the work, we hoped on, and were reticent; but finding still the same defects in a work otherwise excellent, we conceive that further silence would be unkind to Dr. Royle, and we now venture to submit for his consideration our impressions about the therapeutical value of his fifth edition.

First, referring to his account of cinchona and its alkaloids, we find some five and thirty pages of his work devoted to what we freely acknowledge to be a most interesting and instructive description of the natural history of this most important drug; but, in all fairness, we ask him does he fancy that any amount of condensing power on the part of any author, no matter how terse may be his style, will enable him to do adequate justice to the therapeutic importance of this most important article of our materia medica, in less than half the number of lines than have been devoted in pages to its natural history description. Thirty-five pages of letter-press to the one—sixteen lines to the other! Again the

therapeutic uses of calomel are disposed of in three lines! Five pages are devoted to the consideration of nux vomica and its alkaloids; not so many lines to their actions and uses! Their value in paralysis is mentioned, but no effort is made to distinguish between the forms of paralysis which will be benefitted or injured by their administration. The therapeutical history of copaiba is disposed of in about two lines and a-half; whilst that of opium, admitted by our authors as perhaps the most important of all our remedies, is wound up in less than a third of a page. A line and a-half is considered quite sufficient to dispose of the therapeutic properties of santonine, and in, we presume, the anxiety to get rid of an untasteful theme, its uses are confined to the treatment of the ascaris lumbricoides, ignoring altogether its value in the treatment of the oxyurides, whilst the chromatic aberrations of vision which so frequently alarm the patient when under its influences are not even hinted at. And so on we might take up every article mentioned in the work, and whilst recognizing the ability with which one portion of it is written, we would proportionably find ourselves disappointed in the lamentable shortcomings of the other. We speak thus frankly, as in our opinion to do otherwise would be to do an injustice by a work, a little exertion expended upon the therapeutical department of which would be well bestowed, as, were it equal to the natural history divisions, the work would then be one of which our British medical literature might be justly proud.

Dr. Garrod's work has the merit of being the first of our treatises on materia medica, in which the new chemical notation has been introduced; not aiming at any exhaustive description of any department of the science of materia medica, it can boast within of the merits or demerits of Drs. Royle and Headland's work. Far inferior in its natural history, it is somewhat better in its therapeutical, descriptions. Sketchy in its character, more than exhaustive, this work fills up one of the requirements of our age, and this last edition certainly does not belie the promise of the earlier ones. If used as a companion by the student attending lectures upon the subject, or by the practitioner as a remembrancer of information acquired by more extensive study of the topics of which it treats, this work will find its place, and will command a fair share of professional support. Upon one subject we may be permitted to congratulate Dr. Garrod, that he has a son capable of working up the chemical portions of his treatise in so creditable

a manner. From the specimen of his abilities afforded us by the present work, we feel ourselves to be safe in expressing the opinion that he bids fair to keep up the reputation already gained by a worthy sire for the name of Garrod.

The name of Waring has been so very creditably connected with therapeutics by his most valuable manual upon the subject, that when we heard that the production of the Pharmacopeia for India had been entrusted to a committee of which he was to be the chief, we confess to having entertained great expectations as to the merits of the work which would be the result of his supervision, and we are happy to have it in our power to add, that perusal of the production has not disappointed our expectations. Based upon our National Pharmacopeia, it differs from it mainly in not entering fully into the description of chemical processes, which could only be carried out in extensive laboratories. Indeed, in the last edition of the *British Pharmacopeia*, some such principle seems to have actuated the authorities engaged in its compilation. In the instance of many of the chemicals, the process for their manufacture being introduced by some such words as these:—"It may be obtained by the following process." Of course it could not be expected that manufacturers should implicitly carry out the details of any process, no matter how authoritatively it might be recommended, if they could produce an equally good article, at a cheaper rate, by another mode of procedure. All that the interests of the common weal can with justice require of the manufacturer is, that the chemicals with which he supplies the public shall be of standard quality, and that they shall answer the tests for their purity, laid down by competent authority; to go beyond this is but to hamper trade, and to impede progress.

In addition to the articles enumerated in the *British Pharmacopeia*, Dr. Waring has introduced a great number of medicines that enjoy local reputation in India, some of which are of acknowledged value, whilst others have still their claims *sub-judice*. Medicines of this latter class are described under the heading of *non-officinal*, whilst the former, as well as all the medicines contained in the *British Pharmacopeia*, are classed as *officinal*, and for the description of all the natural historical classification has been adopted. Each medicine has its several preparations, following after its description, which is given in a few terse words, together with its physiological effects, therapeutic uses, and doses. In a great number of instances small figures are to be observed, introduced in the description of

some of the drugs in the body of the work, referring to corresponding figures in an appendix attached to it, where information of a fuller character is given, than would be suited to the general character of the pharmacopeia. A most interesting classified catalogue of Indian medicinal products derived from the organic kingdom is also given us, which is arranged in two columns, that on the left-hand side of the page containing the Indian drugs, whilst in the right-hand column are given us the names of analogous substances in the *British Pharmacopeia*, and for which the medicines of Indian growth may be substituted. In this index a therapeutic classification has been adopted, and in our opinion it must prove of great value to every medical officer on his first visit to India. For instance, let him want a substitute for jalap, he refers to his index, where he will be informed that he will find it in the seeds of the Pharbitis nil. For Calumba root he will find the analogue in the root and stems of the Tinocpora cordifolia. For horse-radish in the Meringa pterygosperma. For yeast in the juice of the Borassus flabelliformis, and so on, will be found the Indian analogue of many of our most trustworthy European remedies. In concluding our remarks upon this most valuable and interesting addition to our standard works upon Materia Medica, we have only to state that to the British student it will be found a most interesting, as to the Indian practitioner, it will be a most indispensable work; in its production Dr. Waring has worthily sustained his already high reputation as a therapeutist, and Materia Medica scholar.

De la Kélotomie Sans Reduction, Nouvelle Méthode Opératoire de la Hernie Etranglée. Par le Dr. Marc Girard, Laureat et Medaille d'or de l'école de Médecine de Bordeaux, &c., &c.

On Herniotomy without Reduction, a new Operative Proceeding in Strangulated Hernia.

In this work Dr. Girard proposes to modify the ordinary operation for strangulated hernia in all cases by omitting the last step of the operation—namely, the reduction of the protruded intestine into the abdomen. This proposition will not, we think, be readily accepted in the present day, as most surgeons look upon the reduction of the hernial protrusion as a step in the operation second only in importance to the division of the tissues causing the strangulation; a step to be omitted only from necessity, when the conditions of the hernia are such as to render it either impossible

or manifestly unsafe. However, though we are not prepared to adopt Dr. Girard's proposition, we would recommend his book to any one who wishes to study a carefully selected series of cases of strangulated hernia, presenting great difficulties in their treatment and diagnosis, the facts of which Dr. Girard has analysed with much ability, as it comprises all, or almost all the published cases in which the intestine has been from one cause or another left unreduced in the wound, after the division of the tissues causing strangulation, and many others of equal interest. Dr. Girard's analysis serves this practical purpose, that it puts before the reader the causes which are capable of rendering a hernia unsuitable for reduction, after it has been freed from strangulation, and makes it clear what the treatment in such cases should be.

The introduction of his book contains a statement of the mortality in operations for strangulated hernia, and a valuable table of the statistics which form the basis of his estimate. This table gives as the result of 1,525 cases operated on 794 deaths, or a mortality of 52 per cent. The statement of the mortality attendant on the operation is followed by an examination of its various steps, with a view to determine that which is most influential in the production of the unfavourable result. To facilitate this inquiry he defines the steps to be,

1st. The incision of the hernial envelopes.

2nd. The opening of the hernial sac.

3rd. The division of the tissues causing strangulation.

4th. The reduction of the hernial protrusion.

Dr. Girard next seeks to determine, before the examination of the steps of the operation in detail, whether the high rate of mortality is due to the operation, or to the lesions provoked by the strangulation, independently of the operation. Having found that peritonitis is the most frequent cause of death, he considers whether it is commonly present in cases of strangulation previous to the operation. He decides from his own experience of thirty cases seen at Bordeaux, that the symptoms of peritonitis did not exist in the majority of them at the time of the operation, and he maintains that the peritonitis, occurring after operation, so common in fatal cases, is to be attributed chiefly to the operation. In examining the steps of the operation he dismisses the first from the group of probable causes of peritonitis. He devotes his third chapter to the consideration of the second step. He declares himself absolutely opposed to the operation without the opening of the hernial sac, or,

as it is called, Petit's operation, advancing against it the same objections as were advanced by Hey, while he does not seem to regard the published statistics of its success. It is strange that one who has evidently devoted much time to the study of hernia should dismiss the consideration of this modification of the operation without any consideration, especially strange that one who rests mainly on statistics to prove his own case, should not have examined those of a proceeding which he condemns.

The mortality in cases of Petit's operation has been shown in 153 cases to be 23·1 per cent. Our author publishes the results of 28 cases of hernia operated on without reduction of the intestine, the mortality in which was 25 per cent. The nature of the cases included in these two estimates of mortality differ widely, for the latter cases were amongst the most unfavourable before the operation was undertaken, while it is probable that the former were—at least the great majority of them—cases of a less complicated nature, and as such selected for the particular treatment.

The statistics show, however, that the consideration of an operation which has reduced the mortality from 52 per cent. to 23·1 per cent cannot, as our author considers it, be puerile.

The remaining portion of the first part of the work contains an admirable essay on the dangers and complications which arise in the execution of the ordinary operation. Dr. Girard comes to the conclusion that the opening of the sac and the division of the tissues causing strangulation play but a feeble part in the production of the mortality. The reduction of the intestine he holds to be the chief cause of the mortality, inasmuch as it converts a wound, the necessary result of the operation, which was simple up to the stage of reduction into a penetrating wound of the abdomen. In addition to this cause of peritonitis the reduction frequently gives rise to extravasation of the contents of the intestine into the abdomen, is the cause of the continuation of the symptoms of strangulation, and, the intestine being inflamed when it is reduced, directly excites peritonitis. Such are the chief arguments which he advances against the proceeding of reduction.

The second part of the work is devoted to the history of cases collected from the highest authorities, in which the hernia was abandoned in the wound of necessity. The results of these cases and one performed since the proposal of the author was first known, we have stated above.

With a view to establish the originality of his proposition, Dr.

Girard gives an interesting history of the various propositions of a similar nature made hitherto. Of these that of Olivier, of deferring the reduction until the inflammatory processes should have passed off, in order to avoid the peritonitis caused by the reduction of an inflamed intestine, is the nearest approach to the author's. There is, we think, no doubt that our author is the first to propose the non-reduction as the absolute rule in all cases, but it remains for experience to determine whether it will ever be adopted. The advantages he assigns to the proceeding are the avoidance of the dangers stated above, in addition to the avoidance of a false reduction of the hernia, and of the compression or twisting of it during reduction, or after it is replaced; and he also states that a loop of intestine paralysed by the strangulation, and devoid of vital power, is in a more favourable position (as to pressure from the abdominal tension and the vis-a-tergo) for acting, so as to transmit the intestinal contents through its cavity, unreduced than reduced. In the last instance—namely, the transmission of contents by a paralysed intestine better outside the abdomen than inside it, his argument cannot be of much value, for in the two cases the vis-a-tergo is the same; in the unreduced it will operate with the general pressure of the abdomen to expel the contents through the wound, in the other to entravasate them into the abdomen. Such a case is clearly one in which the operator has no option; if he can determine the condition, he must content himself with division of the strangulation, and leave the intestine outside the abdomen. He also holds that in cases where strangulations occur from the causes present within the sac, such as bands of fibrous tissue formed of old adhesions and other similar causes, the non-reduction of the hernia gives the operator the advantage of being able to detect such accidents, while the usual operation would, in many cases, reduce them with the hernia, and place them out of sight and out of reach in the abdomen.

The points of most practical importance in the remainder of the analysis of the cases of non-reduction which Dr. Girard has put forward are the mode of treatment to be adopted when the reduction is impossible or clearly contra-indicated, and the events which occur in such cases. He has shown that in cases where the hernia is of considerable size a fatal result may follow, although the strangulation is relieved by the injudicious attempts of the operator to facilitate reduction by pressure, by bringing the skin tightly over the tumour, and securing it by points of suture and external

compresses. He shows also that the practice sometimes advocated of securing a gangrenous intestine by suture, and laying it open, so as to create an artificial anus, is generally unnecessary; that it is meddlesome and even dangerous practice. The cases of non-reduction recorded, of which we have stated the results, show the fact that, in most cases, supposing the patient to escape the dangers necessarily entailed by the operation and the circumstances of the hernia, the intestine left to itself gradually recedes into the abdomen and the tumour previously formed by its protrusion disappears entirely or in part, and ceases to require any treatment further than ordinary support.

Dr. Girard concludes his book with directions which are plain and clear for the performance of the operation. These are simply the performance of the steps of the ordinary operation, the reduction being omitted, and the dressing of the wound with simple emollient, or, as we would call them, water dressings, capable of being removed with facility; he, of course, insists on the necessity of abstaining from the use of sutures. He also shows that there is no necessity to retain the intestine by suture, as there is no danger of its sudden retraction into the abdomen.

The last point to be noticed in the book is the fact that but a single case is reported of the operation without reduction being deliberately adopted. In this case the operators were not certain whether the sac was opened or not, and though they had determined beforehand to operate on the new method, they seem to have met a case which would require its adoption under any circumstances.

In concluding our notice of this book we would repeat the recommendation of it which we have given in the first part of this paper. The book is the result of careful study, contains much valuable information clearly stated, and whether the reader agrees with its conclusions or not, he will derive much practical knowledge from the study of the facts recorded, and the author's analysis of them. We are not prepared to adopt the conclusion that the hernial protrusion should never be reduced, or that the steps of the operation should be in all cases those proposed. Our statement of the results of Petit's operation show that statistics do not support any such conclusion, and Dr. Girard does not appear to us to have brought forward sufficient facts, the result of practical experience, to alter our opinion.

Acupressure an Excellent Method of Arresting Surgical Hemorrhage, and of Accelerating the Healing of Wounds. By WILLIAM PIRRIE and WILLIAM KEITH. London: John Churchill and Sons. Large 8vo. 1867.

IN our number for May, 1865, we gave a very full review of Sir James Y. Simpson's elaborate essay upon acupressure; and so important did we consider the subject, that we illustrated our remarks with woodcuts explanatory of the several methods suggested by that distinguished professor for arresting hemorrhage by the means he so ably and earnestly advocates. The present work, from the pen of two deservedly eminent surgeons, has been sent forth into the world with the view of corroborating Sir James Simpson's statements as to the efficacy of this means of arresting surgical hemorrhage, by the record of numerous cases occurring in their surgical practice. That Messrs. Pirrie and Keith have fully and fairly tested the value of its practical application will not be questioned by any one who inspects their work; and the honest expression of approbation coming from the pens of two such eminent surgeons must carry great weight with it in the minds of all who reflect at all upon this department of the operative surgeon's art. We believe that we are safe in stating that no other novelty in our art has received more hostile criticism, or been subjected to more crucial tests than acupressure; and, in despite of all, it appears to hold its own with those who have fairly tested its merits. Those who are most bitter in their opposition are frequently, upon examination, found never to have practically tested its merits in any one of their operative procedures. And yet the agitation upon the subject has resulted in seriously shaking their confidence in the long-recognized *ne plus ultra* merits of the ligature; and as a consequence torsion of arteries has been dug up again from the obscurity in which it lay buried for so many years, and is once again brought prominently before our notice.

In this city acupressure, except in the hands of a few exceptional surgeons, has not received as much attention as the testimony borne in its favour elsewhere would seem to entitle it to. Two remarkable cases occurring, we believe, respectively in the practice of Dr. Robert M'Donnell and of Mr. Macnamara, seem in some measure to have contributed to this result; in each case the femoral artery had been secured by means of acupressure of the

thigh after amputation; and upon the withdrawal of the acupressure needle when it was deemed prudent so to do, smart arterial hemorrhage followed, which, however, was subsequently controlled in both cases by direct pressure applied to the vessel under Poupart's ligament for some very short time; and both patients made excellent recoveries without further operative interference. Various theories may be advanced to account for the occurrence of the hemorrhage in each of these cases; but the *fact* remains, and we suspect, has operated to the prejudice of acupressure in the minds of our Dublin surgeons, with all that, however, we cannot blind our eyes to the noteworthy fact that the ligature has received a severe shake upon its throne, and whatever be the means yet employed for controlling surgical hemorrhage, we shrewdly suspect that it will never again be the established favourite it once was.

We can confidently recommend Messrs. Pirrie and Keith's work to the notice of all who are anxious to judge for themselves what can be said in favour, or done by means of, acupressure. It is written in evidently a most impartial spirit, is admirably brought out, and is profusely illustrated with woodcuts explanatory of the various methods by which this method of arresting surgical hemorrhage can be applied.

Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson. London: John Churchill & Sons. Crown 8vo., pp. 180.

These lectures, which appeared originally in the *Lancet* in a somewhat condensed form, are now published, as delivered to the class at University College Hospital, at the suggestion (Sir H. Thompson informs us in his preface) of numerous correspondents. We are sincerely glad that the author has been induced to republish them in extenso, as the results of his large experience upon the important subjects treated of, are thus brought within the reach of all who desire to profit by them. Short, clear, and practical, full of the matured experience of an able surgeon, whose life is constantly devoted to the subject, these lectures are calculated to be eminently useful. We strongly recommend their careful perusal to all young surgeons. The book consists of twelve lectures, in which the subjects of *Stricture*, *Hypertrophy of the Prostate*, *Retention and Extravasation of Urine*, *Stone in the Bladder*, *Lithotrity*,

Lithotomy, *Cystitis*, *Tumours of the Bladder*, and finally, *Hæmaturia and Renal Calculus*, are all treated of. The importance of an accurate and careful diagnosis, as an essential step to proper treatment, is forcibly insisted upon, the first lecture being occupied almost entirely with the consideration of the best means of forming a rapid as well as an accurate opinion of the extent and nature of diseases of the urinary organs—first, by questions asked; secondly, by examination made by the hand and by instruments; and thirdly, by examination of the secretions. Speaking of the inferences drawn from the state of the urine, the author gives the following caution:—

"Whenever you want a specimen from your patient to examine, do not tell him to send you a bottle of it passed in the usual way, or you will get a mixture of often doubtful value. What you require is the secretion of the kidneys, plus only anything there may be in the bladder; you do not want it complicated with anything which may come from the urethra. Let the man pass two or three tablespoonfuls through the urethra first, so as to sweep out whatever may be there, which may be put into a separate bottle, and then you will get a specimen—at any rate one of which you will know the source. You will have the renal secretion plus anything in the bladder."

In the second and third lectures the subject of stricture is fully discussed. When speaking of the best kind of instrument to be used for dilatation, Sir H. Thompson candidly avows a change of opinion from that expressed formerly by him. In his work on Diseases of the Urinary Organs he had upheld the superior advantages of a metal instrument, contrary to the opinions of experienced surgeons in this city, the late Mr. Hutton, than whom no better catheterist ever existed, always preferring the gum catheter for the treatment of stricture. In the book now before us Sir H. Thompson declares himself convinced, by his extensive experience, that, "beyond all question, the flexible instrument is the best," thus abandoning the teaching of Liston, and agreeing with the most experienced surgeons on this side of the channel. With regard to treatment by rupture the author says:—

"Rupture, however, is too rough a mode, in my opinion, for most cases; and I prefer to carry a fine blade carefully through the fibres of the stricture, and believe it to be the best, and the most enduring in results. But the popular sentiment about a knife cannot be ignored. The British public is not partial to a sharp edge, and is glad of almost any substitute—a feeling one can quite understand. So that it is not

always possible to do the best thing, and we have to select that which is next best. You will then, probably, find the proceeding by rupture a useful one when dilatation has failed."

The lectures upon Hypertrophy of the Prostate and Retention of Urine will repay attentive perusal, as will also the author's advice regarding the operations required for the closing of urinary fistula; but our space compels us to pass on to the important subject of stone, to which three lectures are devoted. The symptoms upon which a safe and accurate diagnosis should be made having been reviewed, the comparative merits of lithotomy and lithotrity are clearly stated:—

"First of all, I will say that all stones, under puberty, with very few exceptions, are to be cut. Under fourteen or fifteen years of age, stones occurring in the male are to be cut, unless they are very small, and can be crushed, say, in one operation; because lithotrity is not a very easy or successful operation in children, the urethra being small and the bladder very irritable; whereas, as is well known, lithotomy is a very successful operation in these cases. We do not want a better operation, comparatively speaking, and one may be content to let well alone. Not more than one death in fifteen or sixteen cases occurs from lithotomy in children. I do not think, therefore, we can do better than to cut in these cases, as a rule. If, however, you have in a child of, say three or four years old or upwards, a stone no bigger than an orange-pip, you may very probably succeed in crushing it, under chloroform, in one, or at most two sittings; and this it is usually advisable to do.

"That leaves us all the cases above puberty. Then I will say, in general terms, that all the cases above puberty are to be crushed, with certain rare exceptions. The first exception is in a case of an oxalate-of-lime calculus, which is, let us say, an inch in diameter. Under an inch in diameter you may crush an oxalate-of-lime calculus. I have crushed four or five in my time. The cases are very rare. Two of them were in this hospital. An oxalate-of-lime stone, from the size of a bean up to an inch in diameter, can usually be crushed; above that size no instrument can deal with it, and the fragments will be so hard that the operation might be of doubtful value, even if we succeeded in crushing. That, then, is the first exception to the general law that all cases in adults are to be crushed."

Bad stricture will prevent crushing, but hypertrophy of the prostate will offer no objection, according to Sir H. Thompson. With regard to the quantity of fluid which it is desirable to have in the bladder when crushing, the author considers one ounce ample,

and there can be no doubt that the perfection to which the lithotrite has been brought, does away, in a great measure, with the necessity for more fluid to protect the coats of the bladder from being caught, as this accident is nearly impossible with a Weiss's flat-bladed lithotrite.

Practical hints like the following abound in these lectures:—

"Now let me give you a hint about crushing, which is a very useful one. Whenever you have found a stone, or a good-sized fragment, and have crushed it, keep the lithotrite exactly in that place, and although you may have had some trouble in finding it, you will now continue to find it several times running. It reminds me of fishing for perch; when you have caught one, you may catch, perhaps, twenty or thirty more out of the same hole, if you will but stop there, and not go fishing about among the shallows. It is the same in lithotrity. You will go on seizing and crushing if you contrive to keep the lithotrite precisely in the same place. In fact, there is what may be called a certain favourite 'area' in every bladder in which to operate—a certain spot which is a favourite haunt, so to speak, for fragments of stone."

In the ninth lecture the author goes *con amore* into a sketch of the history of lithotomy, then clearly describes the "lateral," "median," and "medio-bilateral;" the two latter he states he has performed about thirty times, and so far does not see much to choose between them and the old "lateral." There is no doubt, however, that the author prefers the lateral to any form of median operation, and rightly, in our opinion, inasmuch as the cases which require lithotomy in the adult are cases of large stones, and the lateral operation affords more room than any other. The concluding lectures are occupied with the subjects of inflammation of the bladder and prostate, the symptoms of hematuria, and, finally, renal calculus. It is unnecessary to say more than that all are treated in an equally clear and practical manner.

On Digitalis. By T. L. BRUNTON, B.Sc., M.B. London: Churchill. 1868.

AT a period when the subject of therapeutics occupies a very prominent position in medical literature, and its deficiencies are daily lamented, while the profession long for definite and exact notions as to the application of remedies, we hail with pleasure the appearance of monographs from which we hope to glean the desired information.

Dr. Brunton now publishes a Thesis read before the Medical Faculty of the Edinburgh University, and dedicated to Dr. Douglas Maclagan, at whose suggestion the investigation was begun.

The author, we are bound to say, has acquitted himself of his task in a most creditable manner, and, though the results of his industry are not complete as yet, his essay is a valuable addition to our stock of knowledge respecting the properties and action of the common Foxglove.

The greater part of the text is taken up with an elaborate inquiry into the physiological action of the drug, incorporating his own independent observations with those of other experimentalists.

Its history from the middle of the sixteenth century, when it was first named Digitalis by Fuchsius, down to the year 1865, is briefly though comprehensively given; and as regards the chemical analysis of the plant, the most noticeable point is, that digitaline, or the neutral active principle, is the most important and active of all the constituents enumerated by chemists, and may be reckoned to be about thirty times as strong as the leaves.

The influence of digitalis on the pulse and heart is especially connected with our views of treatment, and Dr Brunton states that its action, when given in small doses, is to reduce the number of beats without rendering them irregular; but under its further influence the pulse at first remains slow, a quick beat being now and then interpolated, and, finally, the pulse becomes regular and extremely rapid. In this he is confirmed by the recent investigations of Dr. Constantine Paul, who finds that digitalis in small doses generally reduces the frequency of the pulse and probably raises the arterial tension; and in larger doses it increases the number of pulsations and appears to lower the tension.

The conclusion arrived at is, that digitalis exerts a slowing action *directly* on the heart, and thus lessens the number of beats. As to the heart itself, the author is at one with H. Jones, Fuller, Winogradoff, and others, in considering that digitalis, in moderate doses at least, absolutely increases the contractile power of that organ, and renders the impulse abrupt and strong. This point is of extreme value in reference to the therapeutic administration of the drug. Since we may also conclude that it is capable of producing contraction of the capillaries, we can understand the success of its employment in internal hemorrhages, especially hemoptysis and menorrhagia.

Though the diuretic virtues of digitalis are generally admitted,

the question has been hotly debated; and as the author's conclusions, based on a careful collation of facts, appear to possess considerable value, we reproduce them here:

"(1.)—That in anasarca, especially from heart disease, digitalis acts as a diuretic. (2.)—That it sometimes, but not always, acts as such even in health. (3.)—That when it acts upon the intestinal canal so as to cause vomiting and purging, or when it affects the pulse so much as to cause intermittence, and, possibly before this takes place, diuresis is much lessened, though a moderate degree of retardation may coexist with diuresis. (4.)—That in large doses it causes suppression of urine, lasting in the human subject for three days."

According to Dr. Dickinson, digitalis is an energetic oxytoxic, rivalling ergot in that respect; and the author believes with Stadion and Brughmans in its antaphrodisiac powers.

The cause of death from digitalis seems to be stoppage of the heart's action and defective supply of blood to the nerve centres.

A short summary of the therapeutic use of digitalis concludes with the warning that, in cases of fatty heart, great caution is necessary in administering it.

A laborious series of investigations on the urine while under the influence of digitalis is appended, but no general conclusions are drawn.

This is followed by an interesting case of poisoning by infusion of digitalis, and the essay, which we commend to our readers, closes with an account of some physiological experiments on the influence of digitalis on the pressure of blood in the arteries, followed by *facsimiles* of sphygmographic tracings of his own pulse during the time in which he made his observations on the state of the urine.

But though sphygmography is probably destined to play no unimportant part in the investigations of therapeutics, as an art it is still in its infancy, and all observations especially, unless made with the instrument as recently improved, must be accepted with some reserve.

A Dictionary of Materia Medica and Therapeutics. By ADOLPHE WAHLTUCH, M.D. London: Churchill. 1868.

UNDER the above title Dr. Wahltuch presents the profession with a large octavo volume of 482 pages, excellently printed and well got up in Mr. Churchill's best style. We are sorry that the

contents of the book are not so valuable as the exterior of it would lead us to expect.

In the introduction the author tells us that "the purpose of this work is to give a tabular arrangement of all drugs specified in the British Pharmacopeia of 1867." Every table is divided into six parts:—1. The Name and Synonyms. 2. Character and Properties or Composition. 3. Physiological Effects and Therapeutics. 4. Forms and Doses. 5. Preparations. 6. Prescriptions.

From this plan and from the title we might suppose that a rich mine of information awaited our exploration, and, indeed, the author himself evidently holds such an opinion, for he informs his readers that the book, though "simply one of reference, contains plenty of information upon materia medica and therapeutics for those whose time is valuable and whose memory is overburdened," and that it "contains everything with regard to those drugs mentioned in the British Pharmacopeia of 1867," and "is complete in itself."

Now, on opening the volume, what do we find? Nothing but an alphabetical list of the drugs in the Pharmacopeia from Acaciœ Gummi to Zingiber, their character and properties being, as a rule, merely abridged from the Pharmacopeia, the list of preparations from the same source, an inaccurate and ill-arranged account of their uses, and a heterogenous collection of 1,072 prescriptions selected from the formulas of English, European, and American practitioners, and including 174 of his own.

A bare alphabetical list is misnamed a tabular view. The former serves no purpose save to assist reference, while a carefully constructed *table* should aid the memory by grouping under its different heads naturally allied families, and so bringing to light relationships that would otherwise be hidden.

If the words of the Pharmacopeia were taken out of the text, scarcely anything would remain except the loose therapeutical summary and the prescriptions, of which we give a few samples:—

No. 1 is labelled Auct. incog., and consists of nothing but a solution of gum in water and syrup. We may well remain ignorant of the author of such a formula. Others taken at random from the author's own prescriptions are:—No. 591. A mixture of mucilage of tragacanth with solution of subacetate of lead, to be applied on lint in cases of "combustio"—a time-honoured application. No. 990. ℞ Ung. atropiæ ʒ ss., to apply locally for facial neuralgia. As an officinal preparation, scarcely worthy of separate insertion as a prescription, and no directions are given as to the quantity to be

rubbed in at one time. No. 1029. ℞ Uvæ ʒ ss. "To eat every evening and drink milk." In cases of catarrh (Anon).

A patient might eat a small bunch of raisins without obtaining a prescription for that purpose.

No. 1065. ℞ Zinci sulph. Plumbi acet. āā gr. 30, Aquæ rosæ ʒ i. aquæ destillatæ ʒ ii. An injection for chronic gonorrhea (auct). Why not order acetate of zinc directly, and so avoid this inelegant formula.

The "tables" are followed by an appendix containing a therapeutic arrangement of all the preparations in the book; and as a specimen of its accuracy, it is sufficient to indicate that under the head of antidotes, carbo animalis purificatus is mentioned as a "general antidote" without any explanation; hydragogue is given as synonymous with drastic; and ammoniacum, copaiba, cubeba, and elemi are placed among the emollients or demulcents.

Hufeland's, Gaubius', and Young's tables for regulating doses according to age come next, followed by the tables of weights and measures of the British Pharmacopeia and of those in use in Germany.

The chief useful feature of the work is the list of synonyms of each drug in the Latin, English, French, Italian, German, and Russian languages, which will be of value for reference; but it is a pity that the author should have "expended so many hours" in the compilation of a work which was not needed.

The Dictionary concludes with a copious index of names and synonyms, an index of authors of prescriptions, and an index of diseases and prescriptions.

On the last point we would observe, that the publication of such practice-made-easy indices is of very ambiguous value, even though sanctioned by such authors as Stillé and Waring.

To the judicious practitioner they will be suggestive in a doubtful or obstinate case, and will refresh his memory as to the means at his disposal; but to many men they are apt to be a snare, teaching them to prescribe for the name of a disease rather than for the actual condition of their patient.

Annual Report of the Commissioners for Administering the Laws for Relief of the Poor in Ireland. 1868. Dublin.

THE comprehensive "stock-taking," if we may be allowed the expression, performed annually by the Irish Poor Law authorities, affords a very reliable index to the state of Ireland.

The report under our present consideration affords many points of congratulation, especially in reference to the comparative absence of small-pox, and other epidemic disease. To the operation of the compulsory Vaccination Act of 1863-4, carried out efficiently by the medical officers, may reasonably be attributed the almost entire absence of mortality in Ireland from this loathsome and contagious disease.

The deaths from small-pox registered in Ireland were, in the year 1864, 854; in 1865, 347; in 1866, 187; and in 1867, 20. When we consider that the mortality from small-pox, thirty years ago, has been recorded in the Irish Census Reports as averaging about 6,000 annually, we have reason to be thankful for the improvements effected in this respect. At the same time, it no doubt will require constant vigilance on the part of the several authorities, as well as on that of the medical officers, to keep down the prevalence of the disease, and to abolish, by a stringent enforcement of the law, the abominable practice of small-pox inoculation, to which is attributable three out of five cases in which the disease was known to exist in Ireland on 24th February last; and these three cases arose "from the mischievous agency of one itinerant inoculator." The fact that the other two cases arose by recent importation from England should stimulate the public to demand an extension of those most salutary laws for the medical inspection of all ships' crews, and in many cases passengers, which the Government have shown the desire to carry out, and in which direction they have already achieved much good.

There are many points of excellence, alloyed in part, no doubt, with what much needs amendment, in the system and working of the Poor Law. It is the less needful that we should devote any lengthened notice to the subject, as that has been done in a previous number of the *Dublin Quarterly Journal of Medical Science.*

Recent discussions in England upon the subject of gratuitous medical relief render it necessary for us to notice the subject, however briefly. There is much truth in the statement that the thriving artisan is too often led to rely on the certainty that when sick he can fall back upon the dispensary medical service for skilled attendance at his own home, and all requisite medicine, and this feeling too frequently leads to drinking and other excesses. Indeed this very day we saw one man, a skilled workman in an iron foundry, earning when he chooses thirty-two to thirty-four shillings per week, who acknowledged that his present ailment arose from a drinking

bout; another man, who possessed great skill in statuary, for which the demand apparently exceeds his powers of production, stated that he had been drinking for the last five weeks; a third, a mason, was in constant employ, until laid up a few days since with bronchitis, and the effects of repeated drinking fits. What aggravates these three cases, is the fact that in every instance the men were married, and fathers of families.

It is not necessary to multiply such cases, which were by no means the only ones seen on the same day; or to give still more heart-rending details of others which constantly come under our notice. We would, however, ask our readers do they not think that some restriction should be exercised in the issuing of tickets for medical attendance on men earning from 30s. to £2 or £3 per week? We must agree in the opinion expressed by the English inspector who lately visited Ireland, that it does not seem well that small retailers and publicans, however well intending they may be, should have the issuing of tickets for medical relief.

Compulsory attendance at police courts to afford evidence in cases of lunatics, "without fee or reward," is an extraordinary piece of modern legislation and imposition, upon the already overworked and under-paid dispensary medical officers. The still more recent substitution of unprofessional gentlemen to carry out the duties of Medical Inspectors in Ireland, thereby cutting off that slender chance of promotion for Dispensary medical officers, appears at once unfair to them and unwise, inasmuch as the great benefits acknowledged to have arisen in Ireland from the harmonious and judicious working of medical inspectors and medical poor law executive officers, will be thereby upset, and the system now being adopted in England upon the Irish model after full inquiry will, by this last-named measure, be completely overturned.

In conclusion, we would ask the Legislature to reconsider the point, as not only does justice to the medical profession, but also the best interests of the nation demand, that sufficient inducement be held out to fully competent men to enter and remain in this very important branch of the public service.

The Warburg Tincture. London: Trübner and Co., 60, Paternoster-row. 1869. Pp. 59.

Dr. Charles Warburg claims to have discovered in the year 1834, while residing in Demerara, an almost certain cure for fever.

The title page informs us that the pamphlet just published is a "statement proving by numerous official documents its remarkable curative power in fevers, more especially in those of tropical climates, with evidence showing its great superiority to quinine, both as regards efficacy and economy, and its value as a tonic in debility and convalescence."

Extraordinary powers are claimed for this medicine, viz., that it will "cut short an attack of fever in the course of two days," that it strikes suddenly and effectively at the root of fever in every stage, that it is a certain antidote to and prophylactic of the poison of fever, and its author undertakes, under the penalty of being denounced as a fraudulent impostor, to cure three-fourths of all cases of fever, intermittent or remittent, jungle or marsh fever, or any other disease having the type of intermittence, however long standing, whether weeks, months, or years, in the course of a few days. He even pledges himself, if he does not prove its unquestionable superiority to any other known medicine, to divulge the composition of his remedy to the world without fee or reward.

It cannot be denied that much testimony in its favour is adduced, especially from practitioners in tropical latitudes, and many names of weight figure in evidence of its value, *e.g.*, Sir A. Halliday, Sir James Gibson, and numerous physicians in France and Austria.

Up to the date of the revolution of 1848 the author tells us that his medicine was thoroughly recognized throughout the whole of Austria as a certain and safe antidote to every kind of intermittent and remittent fever.

In England this tincture has been employed successfully by the late Dr. Babington, in Guy's Hospital, who pronounces strongly in its favour, but he used it on the understanding that Dr. Warburg would make known its composition on suitable conditions when its merits were thoroughly acknowledged.

Dr. Southwood Smith reported against it in the year 1851, while various confirmations of its efficacy are contributed by provincial practitioners in different parts of England; and Dr. Maclean, of Netley, thinks that it would be a wise thing, on the part of the authorities, to secure Dr. Warburg's remedy for the service in India at a reasonable price.

Though the author defies the power of chemistry to reveal its composition, the analyses of it which have been made all point to sulphate of quinia as the essential ingredient, which the author neither acknowledges nor denies. In 1848 a commission was

appointed in Vienna to examine it chemically, and the three sections into which the commission divided, each of which separately analysed the tincture, all agree that the tincture is a compound of aloes, camphor, saffron, and sulphate of quinia; and by some of them angelica, zedoary, and rhubarb were indicated, in addition. The proportion of alkaloid is about 1 gr. in 3 fl i., and the dose is from 3 i.—3 iv.

Profuse perspiration seems to have usually followed its administration, a property which the author himself adduces as one of its advantages.

Dr. Warburg expresses great astonishment, and even indignation, that his remedy has remained for years so comparatively unknown, and that the profession, as a body, refuse to sanction it.

But most physicians, we think, will endorse the sentiments of Drs. Babington and Maclean, that so long as it is a secret and patented medicine there will be a strong prejudice among medical men against its use, and no amount of good which it is credited with will overcome the general repugnance to prescribing it. The idea of a proprietary medicine is alien to the genius of a free and liberal profession, which ought to work with common zeal for the common good, and it is always difficult to separate the element of self-interest from the author of a nostrum, whatever his qualifications individually may be.

There seems little reason to dissent from the opinion of Dr. Thomas Percival, uttered seventy years ago:—"No physician or surgeon should dispense a secret nostrum, whether it be his invention or exclusive property. For if it be of real efficacy the concealment of it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice."

Etudes sur le Curare. Par le Dr. AUG. VOISIN and M. HENRY LIOUVILLE, Résum éd'un travail communiqué à l'Institut (Acad. des Sciences). Paris. 1866. Pp. 20.

An Investigation into the Properties of Curara.

THERE is a growing tendency in modern therapeutics towards the employment of active agents, whose physiological effects are more certainly ascertained, and which can be administered in minute and graduated doses, while by the use of subcutaneous injection their rapid introduction into the system is much facilitated.

Since the well known researches of Cl. Bernard and others on this subject have been published, curara, or woorara, has been the object of many experiments and observations, and MM. Voisin and Liouville contribute their quota of information, having regard more particularly to its therapeutic applications.

Though in use among the South American tribes from time immemorial for the purpose of tipping their arrows preparatory to hunting or warfare, and known in Europe from the year 1595, when it was brought over by Sir Walter Raleigh, great uncertainty still hangs over its source and exact composition, and the efforts of travellers and scientific men have as yet failed to reveal its origin. It is generally believed, after Schomburgh, to be derived chiefly from various species of strychnos, and is described as being an inspissated extract from the bark of the root, resembling thickened liquorice juice.

If it be a product of a strychnos, it is of great interest to note how widely different its effects are from those of strychnos nux vomica, a member of the same natural order. The latter brings on sudden, abrupt, tonic convulsions; the former, clonic convulsions and fibrillary tremors. But the essential difference in the action of the two poisons is, that strychnia primarily affects the sensory and secondarily the motor system of nerves, while the effects of curara are precisely the converse of these; moreover, strychnia acts on the central extremities of the nerves, curara on their peripheral terminations.

Yet though oppositely related to each other they are not mutually antidotal.

We have here accordingly an additional illustration of the fact that an extreme difference of properties may co-exist with the closest botanical affinities.

It is extremely interesting, as connected with this subject, to bear in mind the recent investigations of Drs. Cruise, Brown, and Fraser, who have shown that the addition of a molecule of iodide of methyl, or of iodide of ethyl, to the natural alkaloid, entirely modifies, and even inverts their physiological properties. Thus, for example, they have demonstrated that the salts of methyl—and ethyl—strychnium paralyse the peripheral terminations of the motor nerves, and, therefore, possess exactly the same action as curare has. Similar effects follow the administration of methyl-brucium and methyl-the-bamin.

Briefly to sum up the physiological action of curara we may first

signalize shivering and trembling, which are, however, accompanied by a notable elevation of temperature, amounting to 3° or 4°, as measured in the rectum or vagina. Sometimes, but not always, the external temperature is also augmented, and the face becomes suffused. The beats of the heart, at first rapid and irregular, gradually flag, and finally cease, till death takes place by asphyxia. The pupils, under a moderate dose, enlarge, it may be, to double their size, and it is curious that when this latter phenomenon occurs, it is followed suddenly by constriction of the pupil, after which there is another alternation of mydriasis and myosis.

A more remarkable phenomenon still is often observed from toxic doses, viz., double exophthalmia, which remains manifest for twenty or thirty minutes after all appearance of life has ceased.

All observers agree that curara is a poison to the *motor* nerves, leaving the sensory untouched, while the muscles react vigorously to the stimulus of electricity, showing that the muscular irritability is preserved intact.

As to the channel by which the curara should be introduced into the economy, the authors conclude that subcutaneous injection into the limbs is the most eligible, and that administration by the mouth is inadmissible, on account of the large dose required.

Twelve epileptic patients in the Bicêtre were submitted to the curaric treatment for about a year, but without any definite results being attained.

The dose for hypodermic injection is 18 centigrames (2·77 grs.); endermically 38 centigrammes.

It has been also utilized in the treatment of tetanus and some other spasmodic diseases, and in hydrophobia.

The local effects consequent on injection are a pinkish urticated elevation of the skin, surrounded by a reddish areola, more persistent than the urtication, and accompanied by an instantaneous elevation of temperature and subcutaneous infiltration. If the solution be not filtered these local effects are more enduring, and an abscess may form.

The ordinary systemic effects of curara are best seen in the circulation, for the pulse gains in strength and frequency, and becomes dicrotous for some hours, the temperature of the axilla is augmented by 1° or 2°, and the number of respirations from 4 to 8 ; the urinary secretion is increased, and it is found to include *sugar*, if examined not sooner than two hours after the reception of the poison.

A severe access of fever is the usual attendant of a large dose of curara; motility rapidly diminishes, or even disappears entirely in the lower extremities; muscular co-ordination is interfered with, and the patients are often utterly unable to move their limbs or to sit up.

To these symptoms are added thirst, severe headache, and an intense desire for sleep.

That the active principle of curara is eliminated in the urine is shown by that secretion, when taken from an animal previously poisoned by curara, possessing identical toxic powers. It can similarly be proved that the viscera generally, *e. g.*, liver, kidneys, spleen, lungs, and heart are imbued with the poison, and hence the application of the "physiological test" to frogs or other animals will assist the medical jurist in deciding on a suspected case of poisoning by this substance. The treatment of poisoning by curara resolves itself into the application of ligatures between the heart and the poisoned region, aided by copious diluent drinks, free evacuations, and, if necessary, artificial respiration, or even tracheotomy may be resorted to, in the event of asphyxia being threatened. Quite recently iodide of sodium has been proposed as an antidote, though it is not easy to see on what grounds.

According to Dr. Preyer, curara owes its activity to *curarine*, a body of intensely poisonous energy, which gives some colour reactions similar to those of strychnia, but is at once distinguished from that alkaloid by striking a blue colour with pure sulphuric acid.

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1. *On Varicose Diseases of the Lower Extremities and its Allied Disorders: Skin Discoloration, Induration, and Ulcer: being the Lettsomian Lectures Delivered before the Medical Society of London in* 1867. By JOHN GAY, F.R.C.S. London: John Churchill & Sons. 1868. Pp. 171.

2. *A Manual of the Pathology and Treatment of Ulcers and Cutaneous Diseases of the Lower Limbs.* By JOHN KENT SPENDER, M.B., London, Surgeon to the Mineral Water Hospital, and to the Eastern Dispensary, Bath. London: John Churchill & Sons. 1868.

THE first of the books which form the subject of this notice is written by an able and painstaking surgeon. It deals almost exhaustively with a class of diseases of much importance, which have perhaps not

received that attention which their oftentimes serious nature demands.

Mr. John Gay has chosen as his subject of the Lettsomian Lectures for 1867, Varicose Disease of the Lower Extremities, and its Allied Disorders, and in the three lectures to which he was necessarily confined, gives a very complete account, first, of the Anatomy and Physiology of the Saphenous System; secondly, of the Pathology of the Veins of the Lower Limb; and thirdly, a most valuable and practical lecture on the Etiology and Treatment of Varicose Disease. The book is illustrated by diagrammatic representations of the different matters referred to. They are drawn on stone, from sketches by the author, and are both truthful and telling, though perhaps a little rude. It would be difficult to analyse the contents of these lectures; they are full of the most carefully worked details, and to be fully appreciated must be read through and studied. We may advert, however, to some of the practical conclusions at which Mr. Gay arrives. These seem to us of much importance, and differ materially in many respects from the received ideas. The author denies that there is any connexion as of cause and effect between the varicose condition of a limb and the so-called varicose ulcer; and after reviewing the numerous alleged cures that have been from time to time proposed for the relief of these conditions, he deems them alike faulty in theory and disappointing in practice. To quote the writer's own words. He remarks on page 147:—

"All these modes of dealing with varicose veins are designed to effect the cure of the disease either, 1st, through the obliteration of the veins themselves or of their trunks,—evidently under the misconception that the *disease* is limited to the vessel or vessels selected for operation, or at all events to these and any varicose branches which may spring from or are connected with them; or, 2nd, by diverting the blood from its new and diseased courses into its former hypothetically normal channels. The *principle* involved in both is *cure* by *obstruction*. Now, if what has been advanced has any foundation in truth, the principle must be faulty, inasmuch as it involves the anomalous proposition to cure obstruction by adding thereto fresh obstruction,—a proposition upon a par with the notion of damming a stream in order to relieve the overflow of its tributaries; and Nature has persisted in thwarting a procedure based on such contradictory premises.

"If, then, varicosity is not to be cured, or perhaps even indirectly relieved, by obliterating or otherwise obstructing the diseased vessels or

their trunks, what are we to do? What principles of treatment are we to adopt? I answer, 1st, that so long as varicose veins are capable of aiding in circulating the blood, though with comparatively trifling efficiency, we must (*a*) relieve the general circulation of the limb as far as possible from those causes of embarrassment in which their disease originated; (*b*) preserve the vessels in that state of usefulness to which they may have been reduced, or render them still more useful by giving artificial support to their deteriorated walls; (*c*) remedy any contingent disorder of the vein as far as it can be remedied; and (*d*) adopt such general measures as shall have the effect of indirectly imparting strength to its tissues. And 2nd, (*a*) in the event of any portion of such vein becoming so hopelessly deteriorated that it can no longer aid in furthering the circulation, especially if it be irremediably painful on, or without exercising the limb; or (*b*) if the vein shall have given way, or appears, from attenuation or other conditions, liable to burst without forewarning; —under either of these circumstances the particular segment or entire branch must be obliterated."

Very much valuable information is to be gleaned in the pages of this monograph; and the chapter on ulcers, which terminates the volume, is especially interesting. We can cordially commend this book to our readers, as worthy in every way of their careful attention and perusal.

Mr. Gay has thrown much new light, both theoretically and practically, on an otherwise somewhat uninviting subject; and although some of his conclusions may not be at once accepted, the scientific and candid manner in which the author has treated of varicose disease of the lower limb cannot fail to command respect and admiration.

The book which is second on the list for review is a monograph on ulcers and cutaneous diseases of the lower limbs. In respect of pathology the author simply divides ulcers into four varieties—the varicose, the syphilitic, the scrofulous, and the traumatic, the first being by far the most frequent. In contradistinction to the views of Mr. Gay, this author considers that there is no fact more susceptible of proof than the dependence of ulcers upon varicose veins, and that they are the remote cause of almost every form of non-traumatic ulcer in the lower extremities. Any classification of ulcers which does not take into account the presence or absence of varicose veins is, Mr. Spender states, "philosophically defective, and therefore practically wrong." After giving a good description

of the appearances of the syphilitic ulcer, and a short notice of scrofulous and traumatic ulcers, the author proceeds to lay down the principles and practice which should guide the treatment of these affections. His method consists in the promotion of scabbing by the application of chalk ointment, conjoined with powerful and well-adjusted compression of the whole limb. To this is superadded constitutional treatment, when such appears necessary. Very detailed instructions are given as to how a bandage should be applied, an accomplishment the importance of which, the author appears to imply, is not sufficiently appreciated. The writer objects, and very properly we think, to the indiscriminate use of poultices. He also advises the non-interference with the dressings oftener than may be absolutely necessary, and considers that to wash or irrigate an ulcer, under the pretence of cleansing it, is, perhaps, to undo in one minute the restorative work of the previous forty-eight hours. Contrary to the experience of most surgeons, Mr. Spender is of opinion that in treating cases of ordinary ulcer of the leg, proceeding from any cause, there is no necessity for any rest of the limb at all. "Accurately carry out the method of treatment I have described," he continues to say, chalk ointment, namely, uniform forcible compression of the limb by bandages, "and it will be perfectly safe to tell the patient to go and do pretty much what he likes, of course to be moderate in physical exercise, as he ought to be moderate in everything else." If fact he considers that the exercise of an ulcerated limb is an actual help to its cure. Mr. Spender finds no favour for Syme's recommendation to blister the edges of a callous ulcer. We have often, with decided advantage, tried this plan, and have certainly never been so unfortunate as was Mr. Spender, who in this way succeeded in changing small ulcers into large ones, and in finding himself worse off than before. The book terminates with a sketch of diseases of the skin, as they affect the lower limb, with a view towards the improvement of their therapeutics. We are not sure that Mr. Spender has elicited anything very new in this respect. The author submits his monograph to the candid judgment of his profession, as the result of an experience of sixteen years, during which time he has collected a large number of facts bearing on the subject. The question is one, doubtless, of much interest, and deserving of every attention. But the book Mr. Spender has written, although containing some points of practical importance, which will repay perusal, presents nothing original, and is, on the whole, both disappointing and imperfect.

Recherches sur la Vitesse du sang dans les Artéres du Cheval, au Moyen d'un Nouvel Hémadromographe Par M. L. Lortet, Docteur en Médicine, &c. Paris: Baillière et Fils.

Researches upon the Rate of the Circulation of the Blood in the Arteries of the Horse by Means of a New Hemadromograph. By M. L. Lortet.

The impetus lately given to the graphic mode of demonstrating the motions of the circulation, has produced numerous papers of value, founded upon the results of experiments conducted by that method. The paper before us is second to none of its class. Unfortunately we cannot do justice to this interesting monograph without reproducing many of the numerous and elaborate diagrams by which it is illustrated.

The author first briefly refers to the researches of the various experimenters who preceded him in this field of inquiry; then describes his new and very ingenious instrument for determining the rate of the circulation, and the practical points to be attended to in its use; next proceeds to detail the various experiments which have led him to draw the following conclusions with which he concludes this able and interesting paper:—

"1. At the moment of the greatest energy of ventricular systole the rapidity with which the blood is propelled in the carotid arteries has long since attained its greatest rate, and at this time is on the decrease.

"2. The closure of the sygmoid valves has not ordinarily any influence upon the rate, sometimes, however, it causes a retrograde movement.

"3. The dicrotism of the rate corresponds exactly with the dicrotism of the pulsations.

"4. Even at the time when the heart is at rest the blood is always animated by a continuous motion, and often at a considerable rate.

"5. The rate is much greater during expiration, less during inspiration. The influence of the respiratory movement is perceptible, even at a great distance from the heart.

"6. Mastication augments considerably the rate of the blood, the energy and number of the pulsations even in the distant arteries.

"7. Section of the spinal cord at the occipito-atloid region gives an extraordinary acceleration to the circulation; the rate becomes very considerable, the pulsations stronger and more numerous.

"8. Section of the pneumogastric nerve augments very much the rate of the blood and the pressure in the arteries.

"9. Introduction of air into the arteries destroys completely the regularity of the circulation.

"10. When one of the carotids is tied the rate of pulsation in the other carotid is very much increased.

"11. A narrowing of the aorta diminishes the rate of the blood, and the amplitude of the pulsations.

"12. Insufficiency of the aortic valves augments the rate in the carotids. It suddenly attains its minimum. The pulsations present the same character."

The foregoing conclusions seem to be fully justified by the author's experiments, which appear to have been conducted with admirable care and accuracy. We regret space does not permit us to refer farther to Dr. Lortet's paper than to recommend our readers to peruse it for themselves.

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1. *Archives of Dentistry.* By EDWIN TRUMAN, Dentist in Ordinary to Her Majesty's Household, &c. London: John Churchill and Sons. Pp. 368, 8vo.

2. *Mechanical Treatment of Deformities of the Mouth, Congenital and Accidental.* By ROBERT RAMSAY and JOHN OAKLEY COLES. London: John Churchill and Sons. Pp. 95, 8vo.

3. *Odontalgia, its Prevention, Causes, and Cure.* By W. PARSONS SHAW. Manchester: Palmer and Howe. Pp. 250.

UNDER the title "Archives of Dentistry," we have presented to us the first volume of a periodical whose mission is "to serve as a medium of communication between the medical and dental professions." The volume consists of four numbers, published at intervals, to be determined by the convenience of the contributors. On the debateable ground between medicine and dentistry points of mutual interest will be discussed; while papers on pure dentistry will hold the prominent place which the title of the journal warrants.

The first issue presents an array of names which guarantee that the work undertaken will be well and faithfully done; among them stand prominently forth those of Professor Owen, Drs. Lionel

Beale, Richardson, Cayley, Messrs. Salter, Bate, and others, and though last not least, that of the editor Mr. Edwin Truman.

The programme set forth in the address is fully adhered to throughout the pages before us. Our space will scarcely permit us to do more than glance at their contents, yet we cannot forbear recommending to the notice of our readers the first article on "the importance of dental knowledge to the medical profession," and subjoining to our recommendation the following extracts:—

"The food and drink of his patient are strictly regulated, but he never looks to the mass of corruption through which, and over which, and mixed with which, oftentimes that food passes into an already weakened stomach. These matters are more in his department than he has been accustomed to think, and it is in them he may often, if he will, find the source of many a malady, the clue to the cure of which has eluded his most searching and careful observation."

Again, a few pages further on, the writer observes:—

"The construction of artificial teeth is now well understood and practised so largely, that they may be, and ought to be, as commonly ordered in cases of indigestion, as splints for a broken limb."

Three suggestive articles from the pen of Dr. Richardson, will repay perusal; while in the essays by Messrs. Truman and Bate, the dental practitioner will recognize a faithful and unaffected record of the labours and experiences of two earnest fellow-workers.

There are, besides, papers of histological interest, some good reviews, and translations. The work is well brought out, and the illustrations, though not numerous, are most creditable.

The "Archives of Dentistry" supplies a desideratum in our periodical literature; we give it welcome, and heartily wish it the success it deserves.

Few deformities of the human frame give rise to more serious inconvenience, at some periods of life, even jeopardizing the existence of the individual, than those of the oral chamber.

From time to time the treatment of such lesions has occupied the attention of the most distinguished surgeons; and where surgery has stopped short mechanical ingenuity has come to her aid.

Surgery can do, and has done, much, as the literature of this subject abundantly testifies; but there are cases, more especially

those arising from disease or accident, where mechanical science becomes an indispensible auxiliary. Since the appearance of Snell's treatise, in the year 1828, we have had no work on the mechanical treatment of defects of the mouth. We therefore hail with pleasure the very interesting *brochure* presented to us by Messrs. Ramsay and Coles. The early chapters are devoted to the history and theory of cleft-palate, and a transcript of Sir William Fergusson's dissection of cleft-palate, as recorded in the Transactions of the Royal Society (1845). The leading features in Messrs. Ramsay and Coles' treatment are the employment of plaster of Paris in taking the impressions, and the combined use of hard and elastic vulcanized india-rubber, in the construction of their obturators. The method they adopt is a modification of that introduced before the Odontological Society of London, by Dr. Norman Kingsley, in the year 1864. The *modus operandi* is minutely detailed, a variety of cases given, the description of which is materially aided by excellent illustrations.

No expense has been spared in the production of a work which must prove most acceptable to the profession, and reflects credit on both the authors and publishers.

Mr. Parsons Shaw has devoted 250 pages of letter-press, interspersed with woodcuts, to the description of toothache, its causes, prevention, and cure. His book is written in a somewhat popular style, more adapted to the general than the professional reader.

A Manual of Elementary Chemistry, Theoretical and Practical. By GEORGE FOWNES, F.R.S., late Professor of Practical Chemistry in University College, London. Tenth Edition, revised and corrected. London: John Churchill and Sons. 1868.

THIS work, long the recognized Manual of Chemistry, appears, as a tenth edition, under the able editorship of Bence Jones and Henry Watts. The chapter on the General Principles of Chemical Philosophy, and the greater part of the organic chemistry, have been re-written, and the whole work revised in accordance with the recent advances in chemical knowledge. It remains the standard text book of chemistry.

The Practice of Medical Electricity, Showing the most Approved Apparatus; their Methods of Use, and Rules for the Treatment of Nervous Diseases, more especially Paralysis and Neuralgia. By G. D. Powell, M.D., L.R.C.S.I. Dublin: Fannin and Co., 1869. Fcap, 8vo, pp. 165.

This volume is published by Messrs. Fannin, and contains several well-executed engravings of electrical apparatus. We understand that the author has for some time been devoting himself to a study of the remedial applications of electricity, a subject, we need hardly say, which requires not only familiarity with the instruments used, but physiological knowledge, and an accurate acquaintance with anatomical details.

Holden's Manual of the Dissection of the Human Body. Edited by Luther Holden, F.R.C.S.; Surgeon to St. Bartholemew's Hospital, and Lecturer on Anatomy at that Hospital; and John Langton, F.R.C.S.; Assistant-Surgeon to and Demonstrator of Anatomy and Operative Surgery at St. Bartholemew's Hospital. Third Edition. London: John Churchill and Sons, 1868. 8vo, pp. 604.

The impression of our student-days has since become a conviction, that for most students the use of the large and elaborate works on anatomy, at least in the dissecting-room, is of doubtful utility. We have too frequently seen them yawning over or mechanically reading the pages of minute description, to believe that any, except a few, made their own of the information contained within the volume. As the author of this now well-known manual told us in the preface to the first edition, his object was to direct the attention of the student to the prominent facts of anatomy, and to teach him the groundwork of the science; to trace the connexion, and to point out the relative situation of parts, without perplexing him with minute descriptions. The suitability of a book for students can seldom be accurately determined except by use; passages will appear obscure to the uninformed mind, which, to those who have already a knowledge of the subject, seem perfectly incapable of being misunderstood. And Mr. Holden has availed himself of the criticisms of his class, and has re-written such passages as they found difficult of comprehension. The popularity of the work hitherto is a sufficient

proof of the advantage they have derived from its use. The book is printed on good paper, and in fine, clear type, a matter of no little consequence in the dissecting-room.

The Institutes of Medicine. By MARTYN PAINE, A.M., M.D., LL.D.; Professor of the Institutes of Medicine and Materia Medica in the University of the City of New York, &c. Eighth edition, revised. New York: Harper and Brothers. 1867.

THE opinions advocated by Dr. Paine have been for a considerable time before the profession, the first edition of his work on the Institutes of Medicine having been published in 1847.

An enthusiastic solidist, as thorough a vitalist as Stahl, a warm advocate of blood-letting, both in inflammations and in fevers, and a strenuous supporter of the doctrine that remedies do not act by absorption, it is unnecessary to say that Dr. Paine has had to undergo the ordeal of much criticism, and has been engaged in a considerable amount of controversy.

We have no desire to enter the lists with the veteran professor; and, however widely we may differ from his doctrines, we have pleasure in bearing testimony to the great industry, the earnest and candid spirit of inquiry, and the very varied learning which are evidenced in the elaborate work before us.

A Manual of the Operations of Surgery, for the Use of Senior Students, House Surgeons, and Junior Practitioners. Illustrated. By JOSEPH BELL, F.R.C.S., Edin.; Lecturer on Surgery, Assistant Surgeon Clinical Wards, Royal Infirmary; Surgeon to the Eye Infirmary; and late Demonstrator of Anatomy in the University of Edinburgh. Second Edition, revised and enlarged. Edinburgh: Maclachlan & Stewart. London: Robert Hardwicke. 1869.

NOTWITHSTANDING the evidence of "Northern proclivities" in the selection of some of the operations described in this little volume, we consider it an excellent remembrancer for both young and for veteran surgical practitioners. It is not unnatural that a scholar of, and teacher in, the Edinburgh school should describe in a manual of operative surgery procedures which have immortalized that school as well as their inventors.

Unlike many writers south of the Tweed, Mr. Bell, while giving due credit to Scotch surgeons, has not overlooked the literary rights of surgeons of other countries, an observation we are induced to make, feeling that an endeavour is now being attempted to further a system that may be called London Surgical Centralization.

In these days of competitive examinations students are expected to have some acquaintance with surgical authorities, teachers will not, therefore, recommend works to their pupils in which they are suppressed. There is evidence in nearly every page of Mr. Joseph Bell's manual that he, at all events is, to a great extent, free from national prejudice, so evident in many of the surgical works that have issued from the London Press since the development of our national railroads, more particularly in those works devoted to specialties, the authors of which, like true empirics, endeavour to lead the public to suppose that they only are good surgeons!

In conclusion, we cordially recommend this manual to the attention of our readers, few books of the kind being comparable to it for precision, conciseness, and usefulness.

Mind and Brain; or, the Correlations of Consciousness and Organization. By Thomas Laycock, M.D., F.R.S.E., &c.; Professor of the Practice of Medicine and of Clinical Medicine; and Lecturer on Medical Psychology in the University of Edinburgh.

We have just learned with much pleasure that a new edition of this work, which we regard as one of the most philosophic of the day, will shortly appear.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

Dr. M'Clintock, President.

Luxation of the Head of the Femur with Fracture of the Acetabulum.—Mr. J. Hamilton said, about a month ago, a man seventy-one years of age, was admitted into the Richmond Hospital, with dislocation of the left femur which had occurred about five hours previously. He had been assisting another man in removing some hay, and when in the act of stooping down, a mass of hay, which he calculated weighed about thirteen stone, fell on his back and knocked him down. He was buried under the mass, was got out with difficulty, and suffered a great deal of pain, and was unable to stand on the limb. He was brought to hospital five hours after the occurrence of the accident, and when Mr. Hamilton saw him, he laboured under very well marked symptoms of dislocation of the femur into the ischiatic notch. There was inversion of the limb, but not to the extent which there generally is in dislocation on the dorsum of the ilium, the knee resting against the other knee, the toe inverted and resting on the ball of the other toe. Accurate measurement showed a quarter of an inch of shortening. When he stood up there was observable a great increase of breadth in the pelvis; the trochanter was very obvious, but the head of the bone could not be felt, and appeared buried in the ischiatic notch. Thus there was inversion, well marked shortening of a quarter of an inch, prominence of the trochanter, but inability to feel the head of the bone.

On the next day he (Mr. Hamilton) and his colleagues proceeded to reduce the dislocation in the ordinary way, but failed in reducing the bone. When first the man came into hospital, he tried manipulation, flexing the thigh on the pelvis, extension and inversion, and abduction, but failed. They failed equally in the attempt to reduce the dislocation

by the pullies. Two days afterwards a second attempt was made, but it again failed in reducing the bone. In this second effort at reduction there took place, what was considered to be a favourable circumstance, as regarded the future success at reduction, viz. :—that the bone was dislodged from the ischiatic notch, and removed to the dorsum of the ilium, where the head of the bone could be easily felt. As the man was old and somewhat exhausted by these attempts, a week's rest was allowed before any other effort was made. At the end of the week they made the third attempt, but was not more successful than in the two previous ones. A curious fact was observed when he was moved to his bed, viz., the limb had assumed a different aspect from that of dislocation, and appeared more like that of a fracture of the neck of the thigh bone. The limb was straight down, rather *everted*, and an inch and a-half shortened. The man suffered so much pain, and there was so much tenderness about the hip, that he thought it wiser not to make further examination at the time; the trochanter could be felt much more prominent than before. The man went on pretty well for ten days, when he got an attack of congestive bronchitis, which carried him off.

Post mortem.—As the body lay on the table, the appearance of the limb was again that of dislocation on the dorsum of the ilium, the limb inverted, and the shortening, by careful measurement, two inches; the transverse breadth of the affected buttock one inch more than on the healthy side; the head of the bone could be distinctly felt on the dorsum ilii, moved by the giving invertment movement to the limb. On turning down the integument there was no sign of extravasated blood, the gluteus maximus appeared quite healthy, but beneath it there were some patches of chemosis. The gluteus medius was seen stretched over the head of the femur and trochanter, as the bone lay displaced just above the acetabulum. When the gluteus medius was dissected off, the smooth, white head of the bone, with a short piece of the round ligament was seen resting in the usual situation of dislocation on the dorsum ilii, in a superficial saucer-like cavity, smooth and lined with lymph. At the upper part of the ischiatic notch, where the bone had rested for the first two days, there appeared a trifling lymphy exudation. The causes why the dislocation could not be reduced were now apparant. First, the rent in the capsule was small, and considerable force could not get the head of the bone through it. Secondly, the lower edge of the acetabulum was broken off, so that it allowed the capsule adherent to it to yield before the head of the bone, which thus, coupled with the small opening in the capsule, was prevented entering the acetabulum. Though therefore the head of the bone was brought over its socket, the conditions of the capsule and edge of the acetabulum afforded invincible obstacles to reduction. I believe that the head of the bone was actually brought into this position. and remained so for a time, which would explain the position of the

limb after the last attempt at reduction, the limb straight down, with the foot slightly everted, and the trochanter prominent.

In a practical point of view this case is very important, facts bearing on the obstacles to reduction being rare. Few feelings are more unpleasant than the dissatisfaction the surgeon experiences when baffled in reducing a dislocation, and his gratification is proportionately great when he is able to point out that the pathological conditions of the part were such as would defeat the most skilful and persevering efforts.—*November* 28, 1868.

Aneurism of the Aorta.—Dr. Lyons said the morbid specimens which he now exhibited were taken from the body of a man who was admitted to the Whitworth Hospital a week ago. He was a labouring man, and had been working at his ordinary avocation up to the day prior to his admission to hospital, when he complained of symptoms referable to his heart—palpitation, and distress in the precordial region; he had a quick but variable pulse, and on applying the stethescope a loud systolic bruit was heard propagated up the aorta. With rest and appropriate treatment he appeared to be convalescing, and expressed himself much relieved. He sat up every day, and on the last day of his life he sat by the fire later than any of the other patients, expressed himself very well, and was the last in the ward to go to bed. He appeared to pass a very tranquil night, but awoke suddenly with a cry about six o'clock in the morning, and before any one could go to his bedside he was dead. Mr. Jeffrey Martin, his (Dr. Lyons') clinical clerk, had made a very careful examination of the body.

The pericardium was found enormously distended with blood. The heart and the aorta were very carefully examined to ascertain the cause of death. They found the heart fatty, flabby, and with an unusually large "white spot" very conspicuously marked on it. There were old spots of pericarditis on the surface of the heart. There was a prominent tumefaction in front of the orifice of the aorta, and lying between the aorta and the pulmonary artery, and on the summit of it was a slit-like orifice about the size of a threepenny piece. There was found a dissecting aneurism lying external to the aorta, partly burrowing between it and the pulmonary artery, and making its way down into the body of the right ventricle. It travelled up the aorta to a considerable extent. It was of large dimensions—from two to three inches in diameter—distended with soft clots, fluid blood and laminated coagula lying close to the walls of the sac. On proceeding to slit up the aorta in order to determine the point of communication between that vessel and the aneurism, there was great difficulty in finding it. Before it could be found another aneurism was detected situated higher up on the aorta, probably of longer standing, communicating with the aorta at the

junction of the ascending and transverse portion of the arch. It was plugged with lymph densely coagulated. The orifice of communication was very small, but well defined, and would admit only the barrel of an ordinary-sized quill. After considerable difficulty there was found within half an inch of the aortic orifice an aperture smaller than the one above, and which was the only mode of communication between the aorta and the larger aneurismal sac. It would appear as if by a slow process of burrowing this small circular aperture had travelled through the inner coats of the aorta, and that a sac was ultimately formed by the distension of the outer coat of the vessel.

The sac appeared to have gradually made its way upwards underneath the external coat between the pulmonary artery and the aorta, and it ultimately became of considerable dimensions, being at the period of its rupture about as large as a well-developed orange. It had also burrowed downwards into the ventricle, dissecting a portion of the muscular structure of the heart. A good deal of atheromatous deposit was found to be thrown out at the base of the aneurism.

On inspecting the aorta, its coats were found to be considerably thickened, and the valves were also thickened, but adequate to close the orifice. There was not such an amount of deposit in the valves as would cause the bruit, which was a very remarkable one. Dr. Lyons believed the immediate cause of the bruit would be found to be this, that the aneurism, bulging in every direction, pressed on the aorta, and narrowed the tube so much that it gave rise to the murmur by throwing the blood into vertical vibrations. The symptoms present during life might have led to the opinion that this case was one of ordinary obstructive aortic disease; whereas the obstruction was a secondary effect, caused by the pressure of the aneurism on the parietes of the aorta.—*November* 28, 1868.

Scirrho-Contracted Colon.—Dr. Hayden submitted to the society a very good example of scirrhous contraction of the colon giving rise to obstruction of the bowels, perforation of the small intestine, peritonitis, and death. The history of the case was shortly as follows:—The man was thirty-nine years of age, a labourer by calling, and reputedly healthy and temperate. On the evening of Sunday, October the 18th, about eight o'clock, he was attacked by pain in the abdomen and vomiting. The pain and vomiting continued from Sunday night till the evening of the 22nd, when he was admitted into the Mater Misericordiæ Hospital. He repeatedly had had an alvine evacuation on the morning of Sunday. On the evening of his admission he had an enema administered, and there was another evacuation shortly afterwards. He (Dr. Hayden) saw him for the first time on the morning of Tuesday, the 23rd October. The abdomen was then greatly inflated. There was no

tenderness, except at one point, the upper part of the left lumbar region, and here it was not acute. The man's pulse was weak, and only 60 in a minute; his tongue was dry; he complained of no suffering; sickness of stomach was readily brought on by taking food or drink. There was an interval from the morning until the evening of the 23rd, during which there was no vomiting, but in the evening vomiting returned. On the 25th October the tongue was remarkably dry; the surface was hot; the pulse quick; the abdomen was still more inflated, and across the upper part of the umbilical region there was a well-marked surface-groove showing the line of contact of the inflated stomach and colon.

On the night of the 30th of October he was suddenly attacked with severe abdominal pain of a spasmodic character, which lasted five hours, and on the following morning he (Dr. Hayden) found the abdomen still more distended, and the coils of the small intestines distinctly perceptible through the walls of the abdomen. The heart was displaced upwards to the third left intercostal space by the distended stomach, and here it was felt pulsating near the edge of the sternum; whilst below this level the anterior surface of the chest yielded gastro-tympanitic resonance, and when the patient swallowed fluid, a distinct metallic tinkle. Slight pressure over any part of the abdomen caused vigorous peristaltic contraction, during which the wave-like movement passed slowly over, apparently, the entire length of the small intestine without encountering obstruction, and seeming ultimately to be lost in the posterior and deeper regions of the abdomen. The pulse was 120, the tongue dry, the surface very hot, and stercoraceous vomiting now appeared for the first time; hitherto the vomited matters consisted of the contents of the stomach and small intestine, but now they yielded a fecal odour. On the 9th November the resident pupil reported to him that he had succeeded in passing up the long tube nearly its entire length, and that a large enema then given was retained for some time, and followed by a feculent evacuation containing some scybalous matter.

On the morning of the 11th November the man was suddenly attacked with severe pain extending over the abdomen, and sank about half an hour afterwards. In regard to treatment he would merely say, that everything that could have been suggested was done for the purpose of overcoming the obstruction. Electricity was tried repeatedly; injections were repeatedly administered; and on several occasions it was reported that the long tube was passed up nearly the entire length, and no obstruction encountered, and on several of these occasious fecal matter was evacuated. The strongest purgatives were likewise given with no effect. He had the advantage of the advice of his colleagues, Drs. Cruise and Tyrrell, as to the propriety of intervening surgically, but both were adverse to any operative interference.

On laying open the abdomen there was evidence of incipient peri-

tonitis. The stomach and the small intestines were enormously inflated. The large intestine was also inflated in a great degree up to a point corresponding with the splenic angle of the colon, or rather a couple of inches below, and here the intestine abruptly resumed its normal calibre. At this point the colon was found constricted, and obstructed by a scirrhous mass, which barely left room for the passage of a large probe. The meso-colon in the immediate neighbourhood of the constriction was thickened and puckered, and the lymphatic glands enlarged and hardened. The distance of the stricture from the anus was over twenty inches, measured by the intestine, whilst on examining the so-called long tube which had been used he found it not more than eighteen inches in length. About twenty inches above the cecum caput coli, the ileum had given way at two points, one of which presented an opening as large as the end of the thumb, the other being much smaller, both being surrounded by a deeply congested surface. Through these openings the contents of the small intestine had escaped in great quantity into the peritoneum. The ileo-colic valve had been ulcerated through, the yielding of which, probably, coincided with the first appearance of fecal vomiting, viz., on the 31st October.

The case was interesting diagnostically as presenting an example of scirrho-contracted colon, amounting almost to occlusion, with extensive scirrhous transformation of the neighbouring parts, without the history of chronic obstruction of the bowels, indeed with the history rather of acute obstruction. The man repeatedly assured him (Dr. Hayden), in answer to his inquiries, that he had not been subject to constipation, and was in a satisfactory state of health, and engaged at his daily labour up to the date of the acute attack described. There was, however, no evacuation of blood by the bowels, nor tenesmus at any period of his illness. The aspect of the patient was not suggestive of malignant disease.—*November* 28, 1868.

Cystic Tumour of the Breast.—Dr. Robert M'Donnell brought under the notice of the Society a large tumour which he had lately removed from the breast of a lady. The case was also illustrated by a drawing of the tumour before operation, and a second showing the appearances on section atfer removal. The microscopical characters were also shown to the members.

Dr. M'Donnell said that he had been first consulted by the patient from whom he had removed this enormous tumour in October last. The patient and her friends being under the impression that the disease was malignant, and that operation was out of the question, had sought advice, in order to learn what should be done when the integument, which was very thin at some points, gave way.

The following was the history of the case:—

Mrs. S., a widow, who had not borne children, sixty-four years of age, had observed a swelling on the left breast two years ago: for the first year it grew slowly and was free from pain. About a year ago she accidentally got a blow from the elbow of some one in passing; this caused pain and a rapid increase in the size of the growth.

It was not now painful, but the patient suffered great discomfort from the dragging weight. She supported the tumour on the left arm passed underneath it; her arm ached from thus bearing the weight of it, although assisted by a sling passed round the neck and shoulder. She could not rest at night on the right side, the weight so oppressed her breathing; driving in an easy brougham could no longer be borne, as the slightest jolt caused distress. With all this, however, there was no lancinating pain. She traced all her discomfort simply to its weight.

As seen in the accompanying drawing, large veins ramified over the tumour, and the integument was thin and tense. The nipple was so stretched that it was not at once to be discovered; it was not retracted; no discharge had ever taken place from it.

On raising the tumour in one's hands, it was found to be singularly movable, considering its bulk, and, thin as the skin was over it, it was not adherent.

There were no enlarged glands to be felt in the axilla or above the clavicle.

The patient's general health was good; she looked younger than she really was. The lower portion of the tumour was firm to the touch, and evidently composed of solid matter; the upper portion was as obviously a cyst containing fluid.

On October 9th, this cyst was punctured with a small trocar, and about an ounce of fluid drawn off. This fluid was viscid (thicker than flax seed tea) limpid, alkaline, free from albumen, and contained mucin in large quantity; this latter was precipitated by acetic acid, and was insoluble in excess of that re-agent. Liquor potassæ had a remarkable power in removing the viscidity, especially when boiled along with the fluid.

Dr. M'Donnell recommended the removal of the tumour. On October 17th, his colleague, Mr. William Colles, saw the patient in consultation with him. They agreed in thinking that the tumour was not malignant, and should be removed. Their opinion was based on the following considerations. The mobility of the tumour, and of the integument over it; the state of the nipple; the absence of enlarged glands; the freedom from pain; the appearance of the patient; the fact that a portion of the mass was composed of a cyst, and the nature of the fluid which that cyst was known to contain.

Dr. M'Donnell removed the tumour on October 26th, assisted by Mr. William Colles, Dr. Cruise, and Mr. P. Connolly.

Two circumstances connected with the operation are worthy of notice, as bearing on the pathology of the case—First, after the necessary incisions were made the enormous mass was detached from the integument, and the parts behind with the greatest facility, and almost entirely by the finger of the operator; second, the small number of arteries which fed the tumour, considering its great bulk. Two vessels only needed to be secured, and these were controlled by torsion.

The tumour weighed between nine and ten pounds. The patient made a speedy recovery.

Dr. M'Donnell having exhibited the tumour, pointed out the large single cyst which occupied its superior part, and communicated with the centre of the mass, which was apparently composed of the original structure of the growth broken down and disintegrated. Microscopic examination showed the cells of which the tumour was composed to be spindle-shaped cells; in fact, resembling closely, connective cells, such as are found in the gelatinous connective tissue which binds together the vessels in the funis.

The tumour was a remarkable and exaggerated specimen of the affection known as cystic-sarcoma; its microscopic appearances indicated that, by the microscopist, it would be placed among the class of "spindle-cell-sarcomata," while the contents of the cyst, as well as the glutinous structure diffused among the cells, proved it to belong to the group of growths now known as myxomata; that is to say, the group in which the elements of mucous membrane enter into the formation of the growth, just as fat structure does into fatty tumours, or connective tissue into connective tissue tumours. It belongs, in fact, to the mucous tumour, or myxoma of Virchow.—*December* 5, 1868.

Fracture of the Spine.—Dr. Bennett exhibited a specimen of fracture of the third lumbar vertebra, caused by direct violence. The history of the case was as follows:—

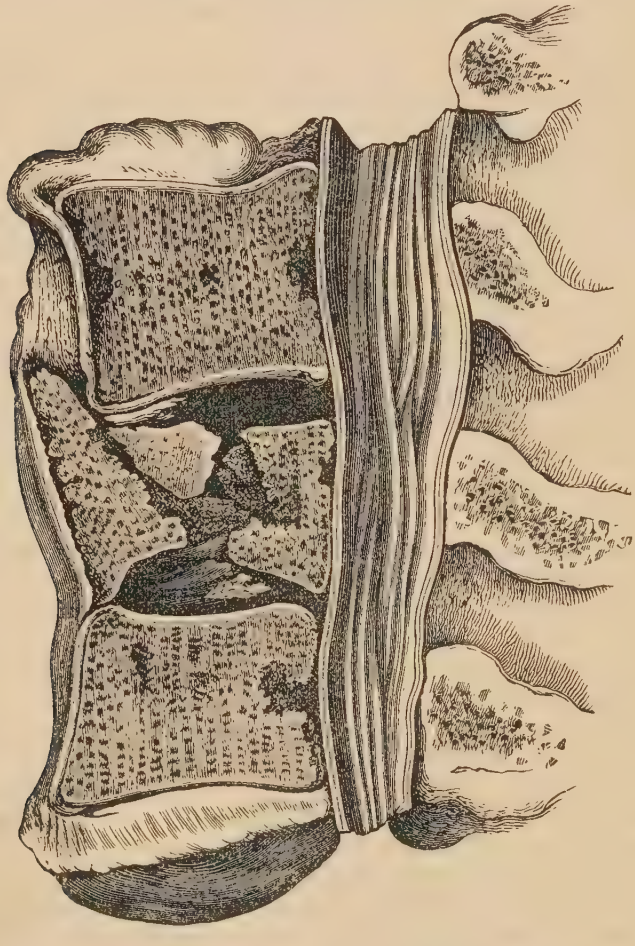
The patient, aged forty-five, was admitted into Sir P. Dun's Hospital on September 9th, in the middle of the night. He had been struck while at work in the gas works by a broom handle fixed in a steam engine. The engine was moving along a tramway in a narrow passage, and the broom handle, projecting from its side, struck the man, and fixed him against the side of the passage; it entered the abdominal wall just above the anterior superior spine of the ilium, making an oblique, linear wound about an inch and a half long; the wound was clean cut, without ecchymosis or any sign of bruising. On opening the wound the oblique muscles were found greatly torn, and the fibres of the tranverse muscle were seen untorn in its deepest part. The resident pupil, who saw the patient on his admission, was confident that he saw a portion of the intestine protruding into the wound; it could not be discovered, however, when Dr. Bennett examined the patient.

The course of the wound could be traced by the emphysematous feel of the deep tissues, back to the junction of the floating ribs with the spine. There was no irregularity of the spine, nor any paralytic symptom present. The patient complained of intense pain in the back; his pulse was good; so good that Dr. Bennett concluded that there did not exist any wound of the cavity of the abdomen or of its viscera. The urine was free from blood. Opium was administered freely to relieve the principal symptom—the intense pain. The wound in great part united within the first twenty-four hours, and was re-opened to give exit to discharge. Violent reaction set in as the wound commenced to suppurate, and after seven or eight days the patient became delirious, and passed urine involuntarily; still he could be roused, and could move his limbs. From this condition he rallied in the last week of September; he began to improve, and was able to take some food; he could get up with help, and sit on the close stool, and was moved into an adjoining ward. In October he had repeated rigors, sweated at night, but did not seem to be losing strength. In November he began to sink from hectic and the continued discharge from the wound. He died on November 21st.

On opening the abdomen the peritoneum was found discoloured in the lumbar regions, but free from any trace of wound or of inflammation; the discolouration was due to the presence of collections of matter external to it, in each psoas muscle, and in the position of the wound. The track of the wound was filled with pus, and extended back to the transverse processus of the vertebræ; this cavity did not communicate with the psoas abscess on the right side. The ascending colon was abnormally adherent to the abdominal wall, where it was uncovered by peritoneum; probably this portion of the intestine was exposed in the wound, and was that seen by the resident pupil at the first examination of the patient.

On opening the psoas abscess on the right side shreds of fibrous tissue, portions of an intervertebral disc, were found lying in its cavity, and some small particles of dead bone. A probe could be passed across into the abscess on the left side of the spine, through the body of the third lumbar vertebra. On making a vertical section of the spine, it was found that the anterior portion of the body of the vertebra was detached, and slightly displaced upwards and forwards, so as to overlap the border of the vertebra; above it a line of fracture ran obliquely downwards and backwards through the body, detaching nearly the anterior half of the body; in this line a few detached fragments lay. The posterior division of the body retained its relation to the neural arch, and there was no injury done to the vertebral canal; the faces of the fractured portions of bone were covered with soft lymph. In the spinal canal there was slight abnormal vascularity, and inside the theca there was yellow lymph in small quantity amongst the fibres of the cauda equina. The case is

of interest as an instance of fracture of the body of a vertebra from direct violence, and from the fact that the fracture was not attended by any of the usual paralytic symptoms; this absence of symptoms is explained by the fact that the vertebral canal was not involved in the



fracture. Throughout the entire case the only symptom directing attention to the spine, except the course of the wound, was the pain in the back.

The mode of occurrence of the injury is of much interest, for it seems evident that the broom handle must have reached the body of the third lumbar vertebræ, by travelling through the abdominal wall, without opening that cavity or wounding any of its viscera.—*December* 5, 1868.

Fracture of the Neck of the Femur.—Mr. Swan exhibited a specimen of fracture of the neck of the femur, removed from the body of a man, aged seventy-nine, who had been admitted into Steevens' Hospital on the 10th of August, 1868, having, a few hours before, fallen backwards, while ascending a flight of stairs, his right hip striking with considerable violence against the balustrade. The limb was found to be shortened three-quarters of an inch; the foot was everted. Crepitus could not be perceived on merely rotating the leg, but was evident on manipulating the seat of injury. The man remained in the hospital until his death, which took place on the 25th of September, from the exhausting effects of diarrhea and sloughing of the nates.

The injury was found to be an extra-capsular impacted fracture, the neck of the bone having been driven into the cancellated tissue between the trochanters. A second fracture had detached the great trochanter, traversing the posterior intratrochanteric space as far as the lesser trochanter.—*December* 5, 1868.

Chronic Disease of the Larynx ; Pulmonary Phthisis.—Dr. Lyons said the morbid specimen which he now exhibited, had been taken from the body of a man, aged thirty-seven, who was admitted to the Whitworth Hospital, on the 11th of November. He was suffering very much from dyspnea. There was also a marked laryngeal strider, and he was jaundiced to a considerable degree. His history was that he had been occupied as a labouring man, in a large porter brewery, and that he had drunk very freely of porter for some years previously. About a year before his admission, he began to suffer from hoarseness and a good deal of distress in breathing, referable principally to the throat. His health gradually gave way, and he then sought admission into hospital. On examining the throat there was a great deal of pain felt, on pressure over the os hyoides, and at times the difficulty of breathing was very urgent indeed. It was evident also there was implication of the lung, but the most peculiar and unusual symptom about the case was the presence of jaundice. His eyes were well marked with a deep icteroid tint, and the whole surface of the body also was jaundiced. Appropriate treatment produced some relief, but he got no permanent ease from his principal symptom, and during the last ten days he suffered from extreme difficulty of breathing, especially at night. The moment the dusk of evening set in, his breathing became exceedingly difficult, and this was the main source of his distress, up to the period of his death. On *post mortem* examination, very considerable and old standing disease was found in the larynx, and on slitting it up the arytenoid cartilages were observed to be almost completely destroyed by tubercular deposit, and subsequent very extensive ulceration. There was a small anfractuous chamber occupying the site of the cartilage on either side. There was a good

deal of thickening of the mucous membrane, and the epiglottis, and the lower part of the trachea were greatly engorged; there was also extreme pulmonary engorgement to the utmost ramification of the brochi, with a deal of a viscid mucous of a bloody character. A general engorgement of the whole lung existed with patches of consolidation here and there, and little masses of tubercular deposit throughout the lung texture. It was on examining the apex of the organ, however, that the most extensive evidence of the destruction of parts was to be found. Large cavities existed, communicating with each other, and occupying the whole summit of the lung. They were of old standing; there was a good deal of cartilaginous thickening about them, and the same condition was found, fully exemplified in corresponding situations in both lungs. There was nothing particular about the heart, except patches here and there, showing former inflammation of the pericardium. The large white patch was more obvious than usual; and here and there were signs of old pericardial inflammation, but no adhesions were found. The organ was rather small. The condition of the liver was worthy of note. Such an advanced state of tuberculosis, it might have been expected to find a fatty state of the liver. It presented a well marked example of nutmeg liver, not uniformly throughout, but the greater part of the hepatic structure was affected.—*December* 5, 1868.

Ovarian Tumour.—Dr. Bennett exhibited an ovarian tumour which he had removed two weeks previously from the body of a woman who died in Sir Patrick Dun's Hospital.

The history of the case extended over a year; the patient, aged twenty-four, was delivered of her last child, immediately before Christmas, 1867, and the tumour was then first noticed; it increased rapidly, and its increase was attended with constant pain extending over the entire abdomen. In February the patient was admitted into the Whitworth Hospital, under the care of Professor M'Dowel, by whom the tumour was tapped; she remained in hospital for five weeks, and then returned to her home. Six weeks afterwards she was admitted into Sir Patrick Dun's Hospital, and remained there until her death. The tumour was three times tapped during the spring and summer, and the fluid drawn off was on each occasion sero-purulent.

The case was considered unsuitable for the operation of ovariotomy, as there appeared to be constant inflammatory action present within the tumour and on its peritoneal surface, and as it was evidently adherent in many places to the abdominal wall and viscera.

In September, Dr. Bennett was asked to see the patient by Dr. Kennedy, in whose ward she had been during the summer; he found a superficial abcess forming in the middle line of the abdomen, in the position of the last operation of tapping.

The patient was transferred to the surgical wards for the treatment of this abcess.

In a few days it was evident that a communication was established between the superficial abcess and the tumour, and that the latter was about to open externally. In a day or two more a small opening formed, which gave vent to a profuse discharge of pus; during the two days following sero-purulent matter flowed freely, and the tumour diminished considerably. In the hope that the cyst might be obliterated, pressure by compresses was made upon the abdomen, but it failed to produce any diminution in the tumour further than that which had occurred on the first escape of its contents. After ten days the tumour became tympanitic, owing to the entrance of air through the external opening. A probe could now be passed easily into the tumour towards the pelvis, but not laterally, owing, as the *post mortem* examination showed, to the projection of secondary cysts from the posterior wall into the cavity of that which had suppurated. The discharge, which, previous to the entrance of air into the tumour, was free from odour, now became very offensive; and its quantity was undiminished. In less than a month from the establishment of the external opening, the patient sank, worn out by pain and the continual discharge. On opening the abdomen after death, the cyst was found almost universally adherent to the abdominal wall in front; these adhesions were most dense and firm around the opening into the tumour, and between it and the pubis; the upper part and sides of the tumour were connected by numerous fibrous bands to the omentum, stomach, and liver; posteriorly there were but few adhesions to the intestines; the pedicle of the tumour formed of the broad ligament was long, and there were but slight adhesions between the tumour and the pelvic viscera.

The opposite ovary was also diseased; it was converted into a cystic tumour composed of two chambers, the entire about the size of a small hen egg; the walls of these cysts, though very thin, were coated on their inside by a thin layer of bony matter; the contents were, perfectly clear watery fluid, with a few glistening plates of cholesterine floating through it.

The examination of the larger tumour showed that it was a multilocular cyst, of the second variety described by Hodgkin, the secondary growths being attached to the internal surface of the principal cavity by broad bases; these secondary growths grew from the lower and posterior part of the tumour, and projected into its cavity, so as to prevent a probe introduced in front from passing into the lateral part of the tumour, while they offered no resistance to its passage down to its pelvic portion.

The inner surface of the tumour was covered with a thick layer of greenish lymph, and this coating had to be removed to expose the walls of the secondary growths. These were all of them thin walled cysts, of

sizes varying from that of a pea to that of an apple, filled with a thick transparent slime.

The case was interesting, as an instance of the mode of termination of a case of ovarian disease, by establishment of external fistula, and as showing the variety of structure and contents of such cysts.—*December* 12, 1868.

Pulmonary Phthisis, with Emphysema.—Dr. Stokes related the following case, and laid the morbid specimens before the meeting:—A man, aged thirty-five, was admitted into the Meath Hospital on the 18th of November last, five months previous to which he had been struck by a heavy weight on the front of the chest. The blow was followed by difficulty of breathing, and shortly afterwards he expectorated a large quantity of blood. He had previously had a cough. On admission he was suffering from dyspnea of an extreme character; his face was livid, his shoulders drawn up and stooped forward; the inspirations were exceedingly rapid, and preceded by a kind of intermittent, chucking action of the respiratory muscles. There were loud sibilant râles over the entire chest, and the lower lobe of each lung was distended to the utmost by air. The diaphragm was depressed, and the liver pushed downwards. The sounds of the heart were regular, but feeble, and the impulse was almost imperceptible. He remained in the half-sitting posture in bed; his pulse was 120; he had incessant cough, and purulent expectoration in large quantity. He died on the evening of the 27th. Phthisis was suspected to exist, but no positive diagnosis was made upon this point. The presence of aggravated emphysema was, however, sufficiently manifest.

Upon examination, *post mortem*, the upper portion of the left lung was found closely adherent to the walls of the chest, and in its interior were several cavities containing purulent matter in large quantity. The upper lobe of the right lung was of a dark colour, congested and solid throughout. The lower lobes of both lungs were extensively emphysematous, and contained numerous small tubercles. The right ventricle of the heart contained a large, firm coagulum, which reached into the pulmonary artery. In the left ventricle a similar coagulum of smaller size existed.—*December* 12, 1868.

Abscess of the Liver.—Dr. Lyons exhibited a specimen of abscess of the liver taken from the body of a woman, aged fifty-six, who was admitted to the Whitworth Hospital in the month of September. Her history was as follows:—Up to four years ago she enjoyed very good health, when she and her husband left this country, and settled in New York. Her husband died there, and she fell into bad circumstances, and determined to return to her native land. She was not attacked with

any peculiar illness during her residence in the United States; and, in point of fact, appears to have been in her usual health until on her return voyage. She approached Queenstown, when she became attacked with symptoms of sickness of the stomach, which lasted some days. She then made her way to Dublin, and sought admission to hospital. At this period of the case the symptoms were the following:—She had a peculiar haggard worn look; the conjunctiva was of a pure pearly white, and all through there was a complete absence of jaundice, or any icteroid tint whatever. She suffered from distress referred to the stomach, but it was of an intermittent character. It was sometimes very severe, and of an oppressive character; and, on the other hand, she would be for days without any pain. Her pulse was at all times very quick, never below 90, occasionally ranging as high as 100 and 120; and a very important feature in the case, and one bearing prominently on the question of diagnosis, was the frequent occurrence of rigors. Rigors would take place for two or three nights in succession. Then there would be an apparent improvement in the general symptoms, and a recurrence of the rigors again, followed in many instances by copious sweating. Having carefully considered all the symptoms of this case he came to the conclusion that the patient was labouring under abscess of the liver. The diagnosis of this disease, it was almost unnecessary to say, was not always easy to be made. There were not any symptoms to point to the liver as the main seat of the disease, but from a consideration of all that was presented in the case, but basing his observations chiefly on the frequent occurrence of rigors, he came to the conclusion that the patient was labouring under abscess of the liver. There ensued a period in which, for a fortnight or three weeks, this woman was able to sit up, and during which she expressed herself as feeling much better. Subsequently to this there was a renewal of the old symptoms, and she suffered from severe rigors and sweats of a very exhausting character. It was evident her strength was giving way. She gradually succumbed, and died after two months' residence in the hospital. The *post mortem* examination was made with great interest, and the diagnosis was fully verified. It was found, on opening the cavity of the abdomen, that there was a very large abscess in the right lobe of the liver, prominent above the general surface of the organ, and which was just on the eve of making its way into the peritoneal cavity, but which had not actually burst into it. His friend Dr. Foot had made a most careful examination of the liver, and found that not only was there a large multilocular abscess, but that there were at least three other abscesses of considerable dimensions. Dr. Lyons then pointed out the special features of the abscesses to the members of the society. In two of them there appeared to be a well-defined pyogenic membrane, but in the others the hepatic tissue was irregularly eaten into, and

formed the immediate wall of the cavity in each case, with numerous irregular chambers, and diverticula parting off in various directions. The origin of abscess of the liver was, Dr. Lyons said, very obscure, and this case threw no light upon it. They knew that persons resident abroad, and becoming affected with dysentery, not infrequently became the victims of secondary absorption through the walls of the intestinal canal, and thus became attacked with abscess of the liver. It was not so in this instance. It was worthy of note, that the bile appeared to be secreted, of a tolerably healthy character, and in sufficient quantity. The gall bladder contained a fair amount of bile, and there was no icteroid tinge present during the woman's residence in hospital.

Within a period of three years, Dr. Lyons said, he had seen no less than a dozen cases of abscess of the liver, and in one only was jaundice present. This case was one of interest, principally as regarded diagnosis, for it could not be said, in the absence of disease in the fetal vein or the intestines, what was the point of definition of the disease in this case, and in what respect it resembled many other cases of hepatic abscess, in which it was found impossible to discover the immediate origin of the morbid process.—*December* 12, 1868.

Fibrous Tumours.—Dr. Bennett exhibited a fibrous tumour of the uterus, which he considered worth bringing before the society, as it presented many characters worth comparing with those of multilocular ovarian tumours and some points of independent pathological interest. Of the history of the case during life he knew nothing, as he obtained the specimen from the body of a subject dissected in the School of Physic.

The tumour was freely movable in the abdomen, firm, irregular on the surface, and large enough to give the abdomen the appearance of the fifth or sixth month of pregnancy. On opening the abdomen the tumour could be lifted up, and was found attached to the pelvic region alone. The pedicle was placed in the middle line, and was formed of the uterus and vagina elongated to such a degree that the tumours could be lifted entirely out of the pelvis. The surface of the tumour was very irregular, and it was covered with secondary tumours of various sizes and shapes, some attached to the central mass by long pedicles formed of peritoneum; those springing from the pelvic part of the tumour were attached by the longest pedicles; all the secondary tumours, whether pedunculated or not, could be freely moved on the central mass. To examine the details of the tumour, it was removed with the entire pelvic organs. The uterus and vagina were laid open posteriorly, and were found to be elongated to more than double their normal length, their walls and cavity being drawn out and narrowed proportionally; the vagina at its upper part barely admitted a No. 8

catheter. The tumour was found to be connected with the fundus and anterior aspect of the body of the uterus. The broad ligaments and their contents were normal, except as regards the size of the vessels they contained. In dividing the parts in the removal of the tumour a great quantity of venous blood escaped from it into the pelvis. There were two large arteries passing into the lower part of the tumour, one of them as large as the brachial vessel, the other very little smaller. On making a section vertically through the tumour it was seen to be composed of irregularly disposed fibres collected into separate masses. At the lower portion of the section there were seen the open mouths of numerous great venous sinuses, giving the section an appearance like that of a section of a pregnant uterus.

The points of interest in the examination of this tumour were its resemblance in shape to an ovarian multilocular cyst, its free mobility in the abdomen, a property conferred on it by the remarkable elongation of the uterus and vagina, its great vascularity, both arterial and venous, and the relation which the secondary growths bore to the central mass. The physical characters which distinguished such tumours, when examined through the abdominal wall, from multilocular ovarian cysts, were the great firmness of the fibrous tumour; not a constant character, and a more essential character, the free mobility of the secondary tumours on the central mass in the case of fibrous tumour. This character was the result of the difference of mode of growth of the secondary tumours in the two cases. In a fibrous tumour the growths were exogenous, and hence more freely movable in the central mass than the secondary endogenous cysts of an ovarian tumour could be.—*December* 12, 1868.

Cancer of the Penis.—Mr. M. Collis said the specimen he now exhibited was neither large nor uncommon, but it presented one peculiarity for which he brought it before them. It was a cancer of the penis, which he had removed during the present week. It had as usual engaged a large portion of the prepuce, and pressed upon and somewhat involved the gland. It commenced ten years ago as a fissure in the prepuce, which was slit up, not through the fissure, but at some distance from it. This treatment, however, had no effect in checking the disease. The peculiarity of the case was the age of the man. Looking at him he should have guessed his age at forty-five, but he said he was only twenty-five, so that the disease must have commenced in his twenty-fifth year. His appearance of age was due rather to the whiteness of his hair and face than to any other features. This example of cancer disease, whether epithelial or general cancer, he did not know, was very rare at such an early period of life in this particular locality. There was no appearance of engorgement of the glands in the groin, which made an operation

hopeful. Although the disease had extended but a short way up the corpus spongeosum, he removed about an inch of the organ, so as to be sure he had gone above all diseased structures.—*December* 12, 1868.

Ulcer of the Stomach.—Dr. Stokes exhibited the stomach of a woman, aged twenty-six, who was admitted into the Meath Hospital, November 9th, 1868. Her habits had been intemperate for several years. She was suffering from a severe, sharp pain in the region of the stomach, and from vomiting. She stated that she had been for several weeks unwell, but became much worse a week before admission, after having been kicked over the stomach by her husband. After the lapse of two or three days, having got out of bed to make use of the night stool, the nurse assisted her back, when she suddenly became faint, fell into collapse, and died in a few moments.

Upon examining the body, a chronic ulcer was found in the stomach, near the pyloric end of the lesser curvature. The peritoneal coat had been perforated, and the contents of the viscus had escaped into the cavity of the peritoneum, but there were no evidences whatever of inflammation of that membrane, for the occurrence of which, indeed, there had not been time, so rapidly did death succeed the perforation.

Dr. Stokes observed that had this woman's death occurred sooner after the receipt of the blow over the stomach, an important medico-logical question might have arisen, as to how far the latter was instrumental in causing the fatal termination. The case was further of interest, as tending to show the influence, in producing collapse, of the mere introduction of the contents of the stomach within the cavity of the peritoneum.—*December* 12, 1868.

Exfoliation from the Tibia.—Mr. Collis exhibited a circular piece of bone which had come away by exfoliation from a trephine wound, which he made in the tibia of a young gentleman, who had contracted syphilis five or six years previously. He had been abroad knocking about, and had suffered from periostitis engaging the greater part of the bone. He suffered, however, in addition from a very severe pain, which he described as of a boring or bursting character. He enumerated ten professional men, colonial surgeons, ship surgeons, and some eminent surgeons in London and Dublin, who had treated him. In addition to those, he had consulted an ecclesiastic in Clondalkin, who worked great cures, and a German tattooer in Stephen's-green, who performed great wonders. He survived all these and came to him. He found there was more than periostitis existing. The young man told him that he had taken ship loads of iodide of potassium. The character of the pain resembled that found in the upper end of the tibia, in connexion with bone abscess. The entire length of the bone was thickened, and he complained of great pain. He

came to the conclusion that he could not relieve him without trephining the substance of the tibia. He proposed this, and he assented to it. The bone was not only double its ordinary thickness, but it was of such extreme density, that he broke two trephines before he got into the medullary canal, and he would not have succeeded at all, if he had not had by him Mr. Samuel Smith's augur, which enabled him, once he got into the bone, to go through it with great rapidity. The patient said that from the moment the cavity was opened the peculiar bursting sensation ceased. In a few weeks this shell of bone came away. By its thickness the condition of the bone could be judged. Mr. Collis had delayed bringing this case forward until a reasonable time had elapsed, in order to test the cure. The patient was three or four months under his care. He would not allow the wound in the bone to heal, until by degrees all the inflammatory material had drained away, and until all pain in the limb had disappeared. He was now able to walk about, and the hole in his shin had healed. This case taught them a lesson, namely, that they should examine all cases of the kind with great care; for with a man complaining of these pains, and having had syphilis and nodes, one would naturally conclude there was nothing but periostitis the matter.—*December* 12, 1868.

Paralysis of the Right Arm—Effusion of Blood on the Left Hemisphere of the Brain.—Dr. Duncan said the connexion between loss of speech, and cerebral disease has been attracting so much attention of late, that I think it desirable that every case that can throw light on this obscure subject should be noticed, even although the circumstances connected with it should be more or less of a negative character. I regret that the specimen I have to bring before you to-day partakes of this negative character, and from the shortness of the time that intervened between the attack of the paralysis, and the death of the patient, we had not an opportunity of investigating, as accurately as we should have liked to have done, the mental health of the patient.

A gentleman, sixty-five years of age, had been for thirty years an inmate of the private lunatic asylum at Finglass. He was a person of eccentric habits, and laboured under marked delusions, but he was quiet, inoffensive, and generally enjoyed good health. There was no hesitation in allowing him to go out and amuse himself whenever he pleased, even without having anyone with him. I saw him on Wednesday last, in his usual good health, and he appeared to be in the same condition on Thursday. On that night one of the patients happening to see him as he was about going to bed, asked him casually how he was, and he replied, "not very well." Next morning at eight o'clock, when the attendant brought a dish of stirabout which he was in the habit of taking, his door was found locked, with the key inside, and there was no response to the

knock for admittance. Dr. Wilson, the resident, came to the door and tapped at it. The patient was observed to get out of bed and to put on his drawers. He tried to open the door, but was unable to do so. He got the key out, however, and the door was opened from the outside, when the patient was found to be paralysed in the right arm. He remained in this state until his death, on Sunday, at half-past twelve, having had on Saturday night two or three epileptic seizures. There was intelligence, so far as we could judge. He appeared to recognize the persons about him. He was in the habit of taking snuff, and on handing him the snuff-box he tried to take a pinch with his left hand; but there was not the slightest attempt at speech.

On making a *post mortem* examination the brain was found to be of normal size and consistence; but there was a general opacity of the arachnoid, vascular turgescence of the whole volume of the organ, and serous effusion under the arachnoid membrane. The cerebral congestion was more marked on the left side, and there was an effusion of blood to the size of a half-crown piece, on the anterior and lateral portion of the left hemisphere, just above the fissure of Sylvius. Dr. Ward made a careful examination of the brain for me, and he found at the fissure of Sylvius a good deal of congestion, but nothing he could call softening. This case, from the position of the hemorrhage, gives a considerable amount of countenance to the idea which locates the organ of speech in this portion of the brain. Still if we had not heard this theory, we should not, from this condition of the brain alone, draw a conclusion that the loss of speech or asphasia was due to this lesion. Dr. Duncan believed that the hemorrhage was the cause of the paralysis, which was evidently partial, and limited to the right upper extremity, as well as to the lesion of the faculty of speech; and that the serous sub-arachnoid effusion was the result of the epileptic seizures, and that the absence of softening in the cerebral tissue, was caused by the short interval of time which elapsed between the primary attack and the fatal termination. — *December* 19, 1868.

Tumour of the Dura Mater.—Dr. Little exhibited the brain of a man aged thirty-two, which presented the following morbid appearances, over the frontal convolutions on the left side: The arachnoid sac was obliterated, and the dura mater inseparably united to the grey substance beneath, as far backwards as the fissure of Rolando, except at one spot somewhat above and behind Broca's region, where a firm well-defined tumour, growing from the under surface of that membrane, and the size of a filbert, had made for itself a bed in the brain structure. The patient was brought to the Adelaide Hospital, in October, by his wife. He had a vacant expression of countenance, and was feeble on his limbs. When she let go his arm he fell backwards, or rather kept backing until he

came against the wall. He understood what was said to him, but had a great difficulty in finding words to reply. Dr. Little knew he had been seven years in Lower Bengal, and asked him where he had been, but he could only remember Calcutta; he could not tell the name of the street in which he lived. He asked him had he ever had any venereal disease, and, after thinking for a long time, he said gonorrhea. He asked him again whether he had had any other disease of that kind, and after thinking for a great many minutes, he at last said "chancre." He had also a difficulty of articulation; he spoke like a person with an acute tonsillitis. On examining him he found an induration at the duplicature of the prepuce, and on his legs several scars having the appearance left by syphilitic eruptions. From the wife he learned that the man was thirty-two years of age, that he went to India in 1858, as a soldier, came home in 1865, and married in 1866. When his wife was pregnant three months she miscarried. She became pregnant again, and again miscarried at seven months. Since his death she gave birth to a living, healthy child. For some time before and after marriage he suffered severely from pains, specially acute in his shin bones, and which were worse at night, otherwise his health was good until the summer of 1867, when he became irritable and cross, and frequently had to make water. In October, 1867, he was suddenly seized one evening with a violent pain in the left side of his head, which continued as long as he was able to give any account of it. There was no other symptom but this pain up to July, 1868, when she noticed him becoming silly, and on the 3rd October, he had a succession of epileptiform paroxysms. After these, three new symptoms presented themselves, difficulty of articulation, difficulty of swallowing, and great feebleness of the limbs. In that condition he came into hospital. He lived a few weeks, becoming more feeble every day, and passing his motions under him. The only morbid appearances were those presented by the brain. They corresponded with those described by Dr. Wilks in connexion with syphilitic disease of the brain, the whole subject of which was so ably dealt with by Dr. Barton in his recently published work.—*December* 19, 1868.

Rupture of the Bladder in the Female.—Mr. M. Collis exhibited a specimen of rupture of the bladder in the female, resulting from external injury, a lesion so very rare, that some considered its occurrence as barely possible. The patient, who was a woman of intemperate habits, retired to bed on the night of the 7th September, without relieving her bladder, and got up in the course of the night for that purpose. Not succeeding, she endeavoured to get into bed again, but fell across the footboard. She fainted at once, and was lifted into bed, and in the morning complained of inability to pass water, and said that she had felt something give way. On the third day after the accident she was brought

to the Meath Hospital in a state of collapse. A large male catheter was introduced, and about half a pint of urine, mixed with blood and clots, drawn off. About the same quantity trinkled away afterwards, and she voluntarily passed water more than once. She died upon the following day, the fourth from the date of the injury. There was an ecchymosis on the front of the abdomen, where the blow had been received.

Upon examination, *post mortem*, a large transverse rent, which admitted the points of the fingers, and with rugged, irregular edges, was found in the anterior wall of the bladder, which was in a contracted state. This large aperture communicated with a gangrenous cavity of considerable size in the neighbouring cellular tissue. There was no communication with the cavity of the peritoneum, which, however, contained a pint of turbid serum, and was inflamed in the vicinity of the bladder. In his remarks on the rare occurence in the female, of the injury in question, Mr. Collis alluded to the memoir of M. Honël, in which forty-five cases of rupture of the bladder were recorded; five only of these occurred in females, one of them, moreover, being an example of spontaneous rupture.[a] He also alluded to the explanation of the circumstance offered by the late Dr. Harrison, who ascribed it not only to the greater size of the female pelvis, but also to the fact, that the distended bladder in the female, "does not incline so much backwards as in the male; on the contrary, it enlarges more forward, and in the transverse direction; while the uterus and its lateral folds may assist to break the shock of any external violence applied to the hypogastric region, and to prevent the direct concussion of the bladder against the sacral promontary."[b] Mr. Collis alluded to a case recorded by Professor R. W. Smith in the twenty-fifth Vol. of the *Dublin Journal of Medical Science*, of a female aged fifty, who, while intoxicated, had fallen across the edge of a tub, and died at the end of five days. The rent in the bladder was very large, transverse in its direction, and situated in the posterior and upper part of the organ, where covered by peritoneum, and different from what occurred in the case before the society. In conclusion, Mr. Collis drew attention to the few recorded instances of recovery from this formidable injury; one was related by Mr. Chaldecott, in the *Lancet* (October, 1846); another occurred in the practice of Professor Syme; a third in that of Denonvilier; and lately a fourth had been recorded by Dr. Thorpe of Letterkenny. —*December* 19, 1868.

[a] Des Plaies et des ruptures de la vessie. Thèse de concours pour l'aggrégation, Paris, 1857.

[b] Dublin Journal of Medical Science, Vol. ix.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

Limited Empyema on Right Side—Evacuation in Right Hypochondrium—Recovery. Communicated by Dr. Hayden, M.R.I.A.; Fellow King and Queen's College of Physicians; Physician to the Mater Misericordiæ Hospital; and Professor of Anatomy and Physiology in the Catholic University.

John C, aged thirteen, well grown for his years, was admitted under my care on the 23rd September last; had been an inmate of the hospital from the 17th to the 27th July preceding; was treated for pleuritis of the right side, and discharged on the latter date in fairly good health, according to the entry in hospital register. Six weeks prior to the date of first admittance he was attacked with pain in the lower part of right side after bathing.

When re-admitted under my care on the 23rd September he was pale, but not emaciated, and perspired occasionally at night; no cough beyond a slight and occasional 'hem'; no expectoration; bowels free; decubitus dexter, or rather diagonal; sleep and appetite good; had never been jaundiced; pulse 110; respiration free and tranquil. There was considerable projection of the ribs over the right hypochondrium, and immediately below the free border of the costal cartilages, and in front of the right lobe of the liver, the abdominal wall was projected by a liquid accumulation which fluctuated distinctly, and pointed in front near the edge of the costal cartilages.

This intumescence extended downwards nearly to the level of the umbilicus, where it presented a well-defined line of limitation, gradually thinned off, and corresponding to the inferior margin of the right lobe of the liver, which was distinctly felt forming for it a border of about a quarter of an inch in depth; towards the left side it extended to the middle line, where it abruptly terminated. There was much tenderness, but no pain in the seat of swelling. The right side of the chest was absolutely dull in front to the level of the nipple, and backwards to the same level, as far as the median axillary line; over the entire of this region no respiratory or other sound was audible, and no vocal thrill was to be felt. Over the remainder of the right side percussion-resonance was clear; above the level of the nipple anteriorly, latterly, and posteriorly, respiration was puerile, whilst inferiorly and posteriorly it was feeble and somewhat tubular, but otherwise normal; the apex of the heart pulsated in the third left intercostal space, internal to the nipple, and close to the margin of the sternum.

Treatment—Nitro-hydrochloric acid in a bitter infusion; wine, nourishing diet, and constant poulticing.

The swelling increased in size gradually, and soon pointed over a larger surface, which was now about two inches in diameter; percussion-dulness extended one inch and a half above the nipple. The boy's general health continued satisfactory, but his sleep was more frequently interrupted and less refreshing, and he complained of tension and distress in the side.

The adhesion of the tumour to the abdominal wall being to my mind satisfactorily established, I punctured it with a straight bistoury on the 9th October, having previously determined the nature of the accumulation by means of an exploring needle. About three quarts of healthy-looking pus were slowly discharged in the course of that day and following night. On the next day I found the dulness of the side replaced by tympanitic resonance; there was likewise in this situation metallic tinkling when the patient coughed; distant respiratory sound of a somewhat metallic quality, but no amphoric phenomena.

A close fitting swathe was adapted to the trunk and tightened from day to day; sulphate of quinia was given, with an abundant allowance of wine and nutritious diet. The side gradually subsided to the normal level, the discharge became less from day to day, the wound contracted, and the boy was allowed to get out of bed on the 23rd October, and on the 8th November he was discharged, and returned to Gormanstown, his native place. For some few days previously there had been rather free epistaxis, for which gallic acid was administered with success; there was, however, no discolouration or sponginess of the gums.

At the date of discharge the following was the boy's condition, viz., pulse 96, and of good volume; appetite good, and can sleep in any posture; no cough; is still pale; heart and liver in natural situations; right side tympanitic in front from one inch above nipple to base, and laterally as far as axillary line; here respiration is hollow, or metallic in quality; tubular and distant, but not amphoric; when he coughed a faint click, much more distinct a week previously, was heard; over the entire posterior surface of right side, and laterally behind axillary line, respiration was vesicular, but weak, and accompanied by coarse crepitant râles, and to the same extent percussion-resonance was somewhat less clear than on the opposite side; slight contraction of right side, most manifest posteriorly.

I may remark here, that for several days subsequent to the operation of puncturing, a circumscribed emphysema, about as large as an orange, was developed over the border of the right costal cartilages when the boy coughed, but subsiding immediately afterwards; this corresponded to the most prominent point of the swelling previously to evacuation, where the abdominal wall had been reduced by progressive absorption, to little more than the integument. Diffusion was manifestly prevented

by a barrier of effused lymph. This little swelling disappeared after a few days, but was the seat of extreme tenderness whilst it lasted.

The history, symptoms, and signs in this case may be thus summed up.

History of pleuritis three months anterior to the date of admittance.—No jaundice, rigor, severe pain, or serious constitutional disturbance.

Symptoms at date of admittance positive and negative.—Palor; weak pulse; decubitus towards right side; fluctuating tumour in right hypochondrium, based by a margin of solid hepatic surface; displacement of liver downwards; displacement of heart upwards; projection of right inferior ribs; no cough; expectoration or dyspnea; no rigors, or hectic symptoms.

Thoraic physical signs.—Dulness; absence of respiration, and of vocal thrill anteriorly, and to some extent laterally, to level of nipple; posteriorly, and likewise laterally to axillary line, respiratory sound was faint and slightly tubular, but in other respects normal, and here percussion sound was clear.

The diagnosis of liquid accumulation in the right hypochondrium was easy, and promptly made; but not so the determination of its nature and its source.

The differential diagnosis lay between the following, viz.:—

1. Hepatic abscess with vertical enlargement of the liver.
2. Hydatids of the liver.
3. Perihepatitis with displacement upwards of the diaphragm.
4. Circumscribed empyema with perforation of the diaphragm, and displacement of the heart and liver.

The first mentioned disease, hepatic abscess, was at once rejected as being incompatible with the brief duration (two months) of illness, the absence of constitutional disturbance, of icteric tinting of the skin and conjunctivæ, and of biliary and other colouring matter from the urine.

Hydatid cyst was scarcely reconcilable with the short period of illness, and the youth of the patient, though otherwise not objectionable theoretically.

The supposition of perihepatitis with effusion will readily find acceptance when the history of antecedent right pleuritis is borne in mind.

Writing on this subject, Frerichs says—"In many cases perihepatitis is an inflammatory process which has spread from some of the neighbouring organs; for example, in cases of right pleurisy, we occasionally observe a participation of the serous covering of the diaphragm and of the liver."

It will be observed that most of the special signs presented were reconcilable with this view; for example, the peculiar limitation of dulness and of absence of respiration in front and on the side of the chest; the vertical displacement of the heart and liver; and that the presence of a limited collection of fluid in the right hypochondrium, without constitutional symptoms, or those specially referable to the liver, would likewise find in this view a rational explanation.

For several days I rather inclined to this opinion, but subsequently felt disposed to abandon it, from the general complexion of the case, rather than for any definite reason.

The diagnosis of empyema entering the abdomen by penetrating the diaphragm was rather presumptive than positive, and rested mainly upon the history of pleuritis; the boy's aspect; the occasional night sweats, and the slight 'hem' rather than cough when he turned upon the left side.

Dr. Stokes gives as one of the differential diagnostic signs between hepatic enlargement and pleuritic effusion: "the clearness on percussion of the upper and middle portions of the chest," and "the existence of the vertical displacement of the heart upwards" in enlargement of the liver.

These diagnostic signs are, no doubt, of great value as between *diffused* empyema confined to the pleural cavity, and simple hepatic enlargements cases to which alone Dr. Stokes would apply them, but the former may fail where the effusion is circumscribed, and the latter where an hepatic abscess, the product of an enlarged liver, finds entrance into the right pleura, or where an empyema, passing in the opposite direction, perforates the diaphragm and distends the right hypochondrium. In the former case there may be latteral displacement of the heart with enlargement of the liver, and in the latter, as exemplified in this case, vertical displacement of that organ upwards, the result of pleuritic effusion.

Doctor Williams mentions a case in which an empyema pointed in the right hypochondrium, and was mistaken for abscess of the liver.

Dr. Townshend describes a case of abscess of the liver pouring its contents into the areolar tissue of the right side, in front of the ribs, by penetrating the diaphragm, yielding fluctuation, and quotes a similar case from Morand.

Andral, in his *Clinique Medicale*, Observation 20, gives the following case:—

A phthisical man, about three weeks after admittance into hospital, was attacked during an evening exacerbation of hectic, with acute pain in the line of the left costal cartilages, accompanied with quick and shallow respiration, which was entirely costal; the pain next extended

into the hypochondrium and groin. He sank rapidly, and died about a month from the date of admittance. Large tubercular cavities were found in both lungs; the base of the left lung adhered to the diaphragm; and surrounded and strictly limited by this adhesion was a vast collection of pus, which passed through an opening in the diaphragm, of an inch and a-half in diameter, with blunt and smooth edges, into the abdomen; it seemed to have pushed the peritoneum before it, and lodged between the spleen and the walls of the abdomen, where it was surrounded by adhesions, and contained in a large cavity with villous walls.

In this case, which has been so often quoted by writers on empyema, there was no evidence during life of a purulent collection in the abdomen, and no diagnosis made of penetration of the diaphragm. There is, moreover, no statement as to the evidence afforded by auscultation of the left side, which probably would have been of no special value, owing to the existence in the corresponding lung of extensive tubercular excavation.

Andral gives three other cases of diaphragmatic pleurisy with empyema, in each of which the suffering of the patient was of an extreme character, all proving fatal, and intimates the opinion that the accession of severe pain and great dyspnea coincided, in these cases, with extension of inflammation to the diaphragmatic pleura. There is no evidence that the boy, whose case I have narrated, suffered pain of even moderate severity at any period of his illness, though the phrenic pleura must have been engaged, and the diaphragm perforated.

Chomel is of opinion that the sitting and dependent posture, the acute pain, delirium, sardonic expression of face, &c., met with in a few cases of diaphragmatic pleurisy, are *not* due to this cause alone, else why their absence when the entire pleura is engaged, as it commonly is.

I have seen, however, at least one case of pleuritis confined to the diaphragm and adjacent portion of the costo-pulmonary pleura, in which the pain and distress were most agonizing, and altogether in excess of the constitutional irritation and physical signs.

The character of the effusion in chronic pleuritis is of great importance in regard to the prognosis. Laennec says that in circumscribed or partial pleurisies the effused fluid is generally puriform.

Dr. Townshend adds that the spontaneous evacuation of fluid, by perforation of the lung or parietes of the chest, "occurs chiefly, if not exclusively, in those cases where the empyema is circumscribed."

The case which I have submitted to the society, was, therefore, one of circumscribed chronic effusion into the right pleura, with perforation of the diaphragm, and eccentric displacement of the liver and heart.

In the well-known case of Andral, already quoted, the peritoneum seemed to have been detached from the diaphragm by the descending collection of pus, for which it formed an envelope in the left hypochondrium. In my case the pus seemed to be strictly limited towards the left by the falciform ligament of the liver, and I was inclined to think, owing to the accurate manner in which it followed the convex surface of the liver. and seemed to be limited by it in its downward course, that it had detached the peritoneum from the diaphragm and liver, and occupied a position external to that membrane. It is a fact worthy of being borne in mind that purulent or other collections usually encounter more difficulty in passing through a serous membrane from the dorsal surface than in the opposite direction; this singular endowment may be intended as a preservative against liquid irruption into serous cavities.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-FIRST ANNUAL SESSION.

First Meeting, Dr. Johnston in the Chair.

MEMOIR OF THE LATE SAMUEL LITTLE HARDY, M.D., F.R.C.S.I.

By Dr. M'Clintock.

When the Council of your Society did me the honour of requesting that I should put together some brief memorials of our late lamented President, they acted under the impression that as an old and intimate friend of his I might be supposed to have a close acquaintance with the history of his professional life.

Though the time wherein to prepare this biographic sketch was very short, I nevertheless undertook the task without hesitation, being glad to avail myself of this public opportunity of testifying my deep regard for his memory, and of paying an humble but well-deserved tribute to his professional character and private worth.

The life of a medical practitioner seldom contains matter to engage the attention of any but those of his own profession, or within his circle of acquaintance. It is wanting in the stirring incidents or exciting passages which impart variety and interest to the history of an individual. The present instance forms no exception to this rule. Still, the biography of a man who, without much adventitious assistance, achieved success, and by honourable exertion reached a position far above mediocrity, cannot fail to be interesting and instructive to his cotemporaries and successors engaged in the same professional pursuit.

It is very far from my wish or intention that the present communication should be merely a eulogium on the character of my late friend, much though I esteemed him; and by a eulogium I mean a piece of panegyric extolling his merits and suppressing his failings. Such a course would ill accord with the stern honesty of his nature, and would be beside my present purpose, which is to set before you a faithful, though necessarily brief, outline of his professional career.

And here let me mention the circumstance, that this is the third occasion on which I have appeared as the biographer of members of our society. The first time I figured in this capacity was in the year 1851, when Dr. John C. Douglas was the subject of the memoir. Again, much of my inaugural address two years ago was taken up with the life of Dr. Charles Johnson, my respected master at the Lying-in Hospital; and now it is my sad privilege to read the memoir of an attached colleague. The two former were very much senior to me, both in professional standing and in years: therefore, to act as their biographer was a common-place matter, and excited no particular emotion beyond the sorrow I felt at losing old and valued friends. But now the case is far different. My own cotemporary, my fellow assistant, my confidential friend, has been cut off in the prime of manhood, and at the height of professional activity, when he had every prospect of adding to his reputation and emoluments. His removal leaves a blank in the inner circle of my professional acquaintance which will never be filled up.

It is time, however, to enter upon the task assigned to me.

Samuel Little Hardy was born at Coalisland, county Tyrone, in the memorable year 1815. When eighteen years of age—viz., in June, 1833—he was indented to the late Dr. Ephraim M'Dowell, on whose decease, in 1835, he, along with some other apprentices, was transferred to the late Dr. Hutton, the colleague of M'Dowell at the Richmond Hospital, and, consequently, here it was that Hardy received his medical education.

The medical student, as well as the medical practitioner, incurs no small risk of taking some of the infectious diseases with which he must necessarily come into contact in the daily routine of professional life. The mortality from this cause among pupils must be pretty considerable, but what its exact amount is I have no data for computing. On two occasions, while yet a student, Hardy's life was placed in imminent peril from diseases caught in the course of his hospital attendance—at one time from erysipelas, and at another from scarlatina.

He obtained the L.R.C.S. in 1839, and subsequently the M.D. of Glasgow University. After spending a few months at Paris he took up his residence at Cookstown with the view of establishing there. He only remained here about six months, however. He then seems to

have formed a resolution of coming to settle in Dublin, and of entering as a competitor in the arduous struggle for fame and fortune which is unceasingly going on in every great city. What attracted him to the metropolis, or repelled him from the country, I know not; nor can I say why he adopted midwifery for his special pursuit. All I know is, that it was arranged that he should be Dr. Charles Johnson's first assistant at the Lying-in Hospital, and that his election to this office took place October, 1842, the late Dr. Robert Johns being at the time senior assistant. For several months previously Hardy acted in the capacity of clinical clerk to the hospital, and during this probationary period he underwent an admirable preparation for the laborious and responsible duties which devolve on an assistant in this institution. It was in the spring of 1841 I became acquainted with him, the wards of the Lying-in Hospital being the scene of our first, as it afterwards was of our closest, intimacy, and from that time to his death we lived on terms of the warmest friendship. For two years and a half we resided together in the hospital. The retrospect of those times brings up many pleasing recollections. Often and often did his happy equanimity of temper, his buoyancy of disposition, cheer and encourage me; and not less often did his sagacious counsel and prompt action assist me at the bedside of many a trying and difficult case.

It is not to be supposed that this twenty-seven years of friendship was a period of unbroken harmony. We had a few tiffs and differences, of which I must say in candour and penitence, "Magna pars fui." But these ruffles never lasted long, and generally ended in more firmly cementing the bond of friendship subsisting between as; just as, "iræ amantium, reintegratio amoris est." He was elected a member of this body in April, 1841, and from that hour to the end of his life he never ceased to be the firm and zealous friend of the society, through all its varying phases of adversity and prosperity sticking to it with unfaltering loyalty. The history of his connexion with it will serve to show more forcibly than any language the extent of our obligations to him, and the magnitude of the loss which our society sustains by his removal.

For five years—viz., from 1842 to 1847—he acted as treasurer of the society. At that period of our history the office in question was a perfect anomaly. A treasurer there was, and he had irksome duties to perform, but the charge of any funds was quite a rare and exceptional part of those duties, inasmuch as the society was in a state of chronic penury, habitually in *articulo mortis*, and just kept from dissolution by the liberality of a few zealous members, himself among the number. For five years, as we have said, Hardy carried on this struggle, but even he, with all his energy and perseverance, could not succeed in effecting any permanent improvement in the financial condition of the society.

In October, 1850, he was elected our secretary, and he retained this office for two sessions. He took out the license of the King and Queen's College of Physicians in 1852, and was elected a Fellow last October, but his death intervened before the day for his formal admission to this rank.

His communications to our society were very numerous. I find—or, rather, Dr. Kidd has obligingly done so for me—that altogether Dr. H. contributed nineteen papers to our meetings. These are of a practical nature, and consist chiefly of clinical reports. The first, and, perhaps, the best of them, was his memoir on ergot of rye, published in the *Dublin Medical Journal* for May, 1845. It is no exaggeration to say, that the series of clinical facts and observations contained in this paper is perhaps the most minute and most accurate that has ever appeared on the same subject. Not only was the utmost care used, as I well know, to guard against mistake or fallacy, but the observations were in every instance noted down on the spot. Indeed, Hardy was a most painstaking and industrious casetaker, and had accumulated a large number of notes and clinical records, but from the want of sufficient attention to classification and arrangement the practical value of this rich store was somewhat lessened. I may here be permitted to mention, that in preparing the work on midwifery, of which Dr. H. and I were conjointly the authors, it fell to his lot to tabulate all the cases, and transcribe most of the clinical histories, and a very laborious part of the business this was.

Nearly all his conclusions in the memoir on ergot have been confirmed by other observers. The correctness of one deduction, however, has been called in question. Dr. Hardy maintains that ergot of rye acts upon the child in a physiological manner; that is to say, through the maternal blood, and independently of any effect that the ergot may produce upon the uterus. At the time this memoir was written I held the same view with regard to the *modus operandi* of ergot upon the fetus; but subsequent experience led me, and Dr. H. also, I believe, to alter this opinion.[a]

Dr. Hardy makes special allusion in his memoir to the use of ergot as a preventive of post partum flooding, and he particularizes three periods in the course of labour when the drug may be given with such intention. Now, I believe, nay, I am quite certain, this was the first time the use of ergot as a prophylactic against uterine hemorrhage had been described, and whatever merit attaches to this priority clearly belongs to him. Dr. Hardy derived his knowledge of this practice from Dr. C. Johnson, who was in the habit of following it. A paper by Dr. Beatty,

[a] At page 484 of the thirty-ninth volume of the *Dublin Quarterly Journal* (May, 1865) is a paper on "The Action of Ergot of Rye upon the Fetus," in which I have brought forward reasons for believing that the action of the ergot on the child is dependent entirely on the uterine contractions, which it may excite.

in which he describes this special use of the drug, appeared in the *Dublin Quarterly Journal* for May, 1846, but it is right to state that some of the cases therein adduced to exemplify the good effects of ergot as a preventive, date so far back as the year 1835.

Another important point in Dr. Hardy's memoir was to show that the time when danger arises to the infant, after the administration of ergot, is variable, and that the only reliable indication of its life being threatened is the state of the circulation as revealed by auscultation of the fetal heart.

This paper on Ergot was read to our society April, 1845, and was published, as I have stated, in the *Dublin Medical Journal* for May of same year.

His last communication to this society he read at the meeting held in June of this present year, and it was published two days after his death in the recent (November) number of the *Dublin Quarterly*. In it he relates some interesting and striking cases of scarlatina occurring as a complication of the gravid and puerperal states.

Time does not permit of my giving any analysis of his various other literary contributions to our meetings. Let it suffice to say, that they are all more or less of a clinical character, and bear the stamp of an eminently practical mind. Soon after the discovery of chloroform, attention was directed to its employment as a local anesthetic. Dr. H. devoted much consideration to this subject, and in the *Dublin Quarterly Journal* for November, 1853, he published a paper on it, wherein he describes a very simple and efficient apparatus for applying chloroform vapour to any part of the cutaneous surface, or to a mucous canal. This seems to have been the first announcement of such a practice, and it attracted considerable notice, and gained some reputation for its author.

During the former régime of our society, Dr. Hardy was elected a vice-president, and subsequently a president. Under our present reformed constitution he also enjoyed similar honours, though in the capacity of president he was not permitted to outlive his year of office. His life was devoted to one pursuit. The last effort of his pen was given to our society, and, by a singular coincidence, he died in the enjoyment of the highest obstetric honour we could confer upon him.

Thus, you see, he filled in our society every position it was possible for a man to hold—viz., member, contributor, treasurer, secretary, vice-president, president, and honorary president, his connexion with us extending over a period of more than twenty-seven years. It is questionable whether any other society could produce a parallel for such lengthened and varied services.

So much, then, for his history as far it relates to this society. Here, without doubt, he did his duty to the best of his ability, and amongst

us, at all events, his name must ever be remembered with honour. I had the very best opportunity of seeing and knowing how he acquitted himself as an assistant of the Lying-in Hospital, and I boldly venture to affirm that no man more conscientiously fulfilled the arduous and anxious duties of that post with such unflagging zeal and thorough devotion. His hospital business was his first and his constant care; and never for one moment did he let his private interest or recreation interfere with its due discharge. By permission of the master, Dr. Johnson, he took a part in the regular courses of instruction given to the pupils, lecturing upon the signs and diseases of the pregnant state.

Shortly after the expiration of his assistantship at the Rotundo, Dr. H. was elected a medical officer of the Pitt-street Institution for Diseases of Children. Of late years he and Dr. W. Moore had the exclusive management of this excellent medical charity.

A Government Commission recommended, in the year 1855, that a complete medical school should be attached to Steevens' Hospital. In furtherance of this object, Dr. Hardy was appointed obstetric physician to the hospital, and was granted a ward for the treatment of female complaints. On the opening of the school he became one of its staff, the Chair of Midwifery being assigned to him, which post he held up to the time of his death.

In the middle of 1846 Dr. H. took up his residence in Molesworth-street, the same street in which Johnson, Montgomery, and Beatty each made a successful start in practice. The house he occupied (No. 29) is entitled to some medical consideration. It was originally built and inhabited by the late Dr. John Beatty. It was next occupied by his son, Dr. Wm. Beatty, to whom succeeded Dr. Hardy, and from his hands it passed into the possession of Dr. M'Cready, its present proprietor. It stands on the site of what was the town residence of the Right Hon. John Forster (subsequently Lord Oriel), the last Speaker of the Irish House of Commons.

Dr. Hardy left Molesworth-street in the early part of 1862, and moved into No. 9, Merrion-square North, the house previously occupied by Sir H. Marsh. Now, it might reasonably be supposed that such a change of residence would be sure to exercise a very decided effect in improving his practice. But this is not borne out by the facts. His professional receipts for the year 1862 were actually £77 less than those of the preceding year, when living in Molesworth-street. Nor was the average yearly increase of his income, whilst living in Merrion-square, at all equal to the average yearly increase during his residence in Molesworth-street.

All this tends very forcibly to show—1st, That a medical practitioner needs to weigh the matter well before changing his residence, even though the change, so far as house and locality are concerned, be

altogether for the better. And 2nd, That a large house in a fashionable situation may not be so conducive to the increase of practice as is commonly supposed.

As a practitioner, Dr. Hardy was, in the fullest sense of the word, a very successful one; not merely successful in getting patients, but successful also in curing them, for the former is not always or necessarily a consequence of the latter. Many an indifferent practitioner can boast of plenty of patients; and *vice versa*, many a good one has very few! The largeness of Dr. H.'s practice, however, was mainly, if not entirely, the result of his character for professional skill and extreme attention to his patients. The vigilant care he bestowed on the sick, whether in hospital or in private life, was constant and unreserved. He was utterly regardless of trouble so long as he could be of any use. He was always sanguine, and never let the apparent hopelessness of a case tempt him to relinquish the employment of remedial agents. To some his practice might seem to savour of the "nimia diligentia;" but assuredly this is a lesser error than the opposite and more prevalent one of the "nimia negligentia."

His indefatigable exertions occasionally succeeded in rescuing a patient from almost inevitable death; and I need not say how greatly such a triumph is calculated to adorn a reputation, and secure the attachment of devoted friends.

Dr. H., as you all know, had a well developed and muscular frame. In former years he was very fond of practising gymnastics, and was accustomed, among other exercises, to wield a pondrous club of immense size, and work a pair of dumb bells each 56lbs. weight. Now, it seems not at all improbable that the abdominal aneurism of which he died may have been originally produced by some of the violent bodily efforts necessarily required in the performance of such feats of strength.

The history of his last illness well deserves being recorded. It seems that for some considerable length of time—months at all events—before his death he was liable to attacks, of rather severe pain in the left lumbar and dorsal regions, which were supposed to be rheumatic, and for which he was in the habit of applying strong anodyne embrocations. On Tuesday, 27th October, not feeling very well, he went out to dine and sleep at a friend's house near Blackrock. On arrival at the house he was suffering so much pain in the abdomen that he went direct to his bedroom, and applied a hot bran poultice. In the course of the evening Dr. Pollock, of Blackrock, saw him, and he has obligingly furnished me with the following details:—"About seven p.m. I found Dr. H. in bed complaining of pain resembling colic in the left iliac region, and this, he told me, had commenced about three o'clock p.m., when at home in his study. Opening medicine was required, and

I prescribed an aperient which brought away some scybala. Not feeling relieved by this, he got an opiate suppository, after which he slept for some hours. On visiting him the next day (28th) he still complained of the pain, and referred it to the region of the lumbar vertebræ, and shooting into the iliac and hypogastric regions. He continued restless and uneasy during the day, though taking small doses of morphia. I saw him again in the afternoon, and applied the spinal ice bag, which gave almost immediate relief, and he kept applying it himself alternately to his back and abdomen until eleven p.m., when he got some hours of broken sleep. The next morning (29th) the pains were still present, but not at all so acute, and he appeared cheerful in manner. Whilst I was away visiting a distant patient he became suddenly worse, with symptoms of collapse. His colleague Dr. Moore saw him about four p.m., and found him almost pulseless, and cold in the extremities, but clear in his mind, and still complaining of pain in the back. Dr. Moore ordered him some brandy, and a pill containing opium, every two hours. At eight p.m. I again visited him; he was then sleeping easily. About half-past nine p.m. I was hurriedly summoned, but when I reached the house he had expired. On inquiring, I learned that he awoke some time after my visit at eight o'clock, and said he felt much easier. A few minutes afterwards he was seized with a sudden pain of a very excruciating character, and died almost immediately, death being preceded by some slight convulsive moments, apparently from the intensity of pain. I have forgotten to mention, that during his illness the urine was very high coloured, and the pulse was about 60, and feeble."

An examination of the body was made by Dr. Edward Hamilton, assisted by Dr. Pollock, and I now subjoin Dr. Hamilton's report of the appearances found in the abdomen:—

"On opening the abdomen a quantity of fluid blood was found in the lower part of the cavity, filling the recto-vesical pouch. A small rent in the peritoneum allowed the blood to flow into the peritoneal sac from the areolar tissue behind it, in which there existed an extensive effusion of blood. This was traced to a large aneurismal tumour of the aorta, behind the mouth of the celiac axis. The second and third lumbar vertebræ were slightly rough and eroded by the pressure of the aneurism, which had burst and become diffused into the recto-peritoneal areolar tissue."

Coupling the symptoms during life with the morbid appearance, it seems more than probable that rupture of the sac took place forty-eight hours before death, the blood being extravasated underneath the peritoneum, and on the bursting of latter life was instantly destroyed. This course of events—viz., sudden death by rupture into a serous cavity, supervening on a diffused aneurism with hemorrhage into cellular structure—

very much resembles what occurred in the case observed by Dr. Law, which was the first of the kind to be put on record.

With regard to the moral phase of Dr. Hardy's professional character, I feel that, surrounded as I am by so many of his friends and associates, there is little necessity to offer a single observation. You will all bear me witness when I say that he was a man without guile or hypocrisy. In all intercourse and relations with his medical brethren he pursued the straightforward path of truth and honour, his code of ethics being comprised in this one good old maxim, "Do as you would be done by." He lived on terms of harmony and good fellowship with all the members of his own profession, and I am not aware of his ever having had a quarrel or misunderstanding with any one of them.

The life history of every man, no matter what his rank or calling may be, will, if carefully studied, be found to illustrate some one important truth, to yield some practical lesson of utility. What, then, we may ask, is the moral to be drawn from the history I have endeavoured to put before you? Just this: that shining qualities, or great mental endowments, are by no means essential to success; but that he who strives honourably and earnestly, applying himself with persevering diligence and singleness of purpose to the duties of his profession, must, sooner or later, command respect, and reap an abundant reward. "He that walketh uprightly, walketh surely."

Having now finished the task committed to me, it only remains to offer my sincere apology that this address is not more worthy the theme and the occasion; but such as it is I offer it as a tribute of respect to the memory of my worthy and valued friend, our late President.

TRANSACTIONS OF THE CORK PATHOLOGICAL AND MEDICO-CHIRURGICAL SOCIETY.[a]

Specimen of Phthisical Cavities in Lungs, with Notes of Case. By John Wall, A.B., M.D., L.R.C.S.I.; Physician to the Cork Workhouse Hospital.—Read Nov. 11, 1868.

James Gampin, aged thirty, admitted into the Cork Workhouse Hospital under my care July 16th, 1868. He was then in an advanced stage of phthisis. I ascertained that his illness commenced with cough eighteen months previously, several attacks of profuse hemoptysis having occurred before admission. Upon examination I discovered that the entire of the right side expanded feebly, was extremly dull on percussion, both anteriorly and posteriorly; large crepitation and pectoriloquy were almost everywhere audible in it.

[a] These Reports are furnished by the Secretary, Dr. Purcell.

The left side was not at all so much engaged, but its apex gave out a dull sound when percussed. The respiratory murmur was coarse in the infra-clavicular and mammary regions, accompanied by a clicking sound at the termination of inspiration; expiration prolonged. Bronchophony also distinctly observed here. He presented the usual hectic appearance; there was much constitutional disturbance and emaciation. The treatment consisted of generous diet, combined with sedatives and counter-irritation over right side. These measures were, however, quite ineffectual in preventing the further progress of the disease. He gradually became more feeble, and died of exhaustion, Nov. 8th, 1868.

Post mortem.—Upon raising the sternum some fluid escaped from the left pleural sac. The right lung was so intimately adherent to the corresponding side that great difficulty was experienced in removing it. When examined it was found to be contracted to about half its normal size, was completely infiltrated with tuberculous matter, and riddled with small cavities. The left lung showed several cicatrices at its apex, evidently the result of former cavities. The upper lobe contained masses of crude tubercle; the lower lobe was apparently healthy, with the exception of some hypostatic congestion. Both lungs, especially the right one, were thickly coated with false membrane.

This case appears to me to present many features of peculiar interest; amongst others it shows with what tenacity life is occasionally preserved. Here we find a man able to perform for several months the arduous duties of a sailor, whose right lung appeared to be utterly destroyed by a disease which had also involved the greater portion of the left.

A Case of Depressed Fracture of the Skull. By T. C. Shinkwin, M.D., Surgeon to the Cork North Infirmary.

John Collins, aged forty-six, married, admitted into the North Infirmary on the 20th June, 1868, with symptoms of compression of brain.

History.—His friends state that, whilst attending a funeral about three weeks ago, he was knocked down in a row, and when on the ground received a blow of a stone on the left side of the head. He was taken home, the cut bleeding very profusely, and placed in bed, where he lay insensible until about eight o'clock the following morning (that was about thirteen hours from receipt of injury), when he became conscious, sat up, and eat and drank some bread and tea for breakfast. He went on for some days, part of the day in bed and another portion up, when, on the recommendation of some friends, a medical man was sent for, who, on examining him, told his wife that there was fracture of the skull. For three days before his admission to hospital he was becoming more and more insensible. Dr. Golding saw him on

the 20th, and found him perfectly comatose; pulse 70; respiration very laboured; pupils insensible to light, and greatly dilated; unable to swallow, and passing urine and feces involuntarily. Dr. Golding, on examining his head, found a healing wound over left parietal bone about two inches in length. On making an examination with the probe he found that the patient had depressed fracture of the skull, and that the instrument passed through a small chink in the bone and entered the brain; there was immediately a flow of thick pus from the opening, which appeared to ease some of the symptoms under which the patient suffered. Seeing that the case was so unfavourable, Dr. Golding advised that the man should be brought into hospital, giving him a little stimulant before moving him. So anxious was Dr. Golding about the case that he met the car at the hospital gate, and was surprised to hear that on the journey the patient had so recovered consciousness as to ask the car to be stopped, and got out and passed some water. On my seeing him about half an hour after admission, he was able to tell me his name, and spoke comparatively rationally; but if left alone would drop off into a slumber. I found the wound and fracture just as described, and could pass the probe into the brain, with no resistance whatever being given to it, for, at any rate, three to four inches in a direction forwards and downwards. There was a consultation that evening (Dr. Gregg saw the man), and we came to the conclusion that, as there was then no urgent symptoms about the man, we would defer interfering until the morning. Ordered him a little wine, as he was weak after the journey. Next morning we found him nearly in the same state as previous evening: slept fairly through the night; called for the vessel to pass water, but did not attempt to get up; complains of no pain in head. On protruding tongue it is slightly pointed to right side, and there is slight paralysis of facial muscles. On being asked to write his name did so, but wrote a wrong Christian name; and on being asked to write the name over again he could not do so. He also failed to spell numbers, but put down the figures, and each attempt differed from the former one, adding an 0. With the concurrence of my colleagues and Dr. Gregg, it was determined that I should relieve the brain of the pressure under which it was suffering. I therefore enlarged the original wound, and made another at right angles across, thereby exposing a depressed comminuted fracture of the skull quite cupped, shaped, and showing the opening through which the probe passes into the abscess of the brain. I did not require to use the trephine, with the forceps removed seven pieces of bone, leaving a bared surface of dura mater about an inch in diameter, with a small opening through which some healthy pus flowed. After the operation he

appeared to be still more relieved, and did not speak quite as thick as before. The edges of the wound were lightly brought together, and a pad wet in cold water laid over all. On the next day the matter came quite freely from the head, but there was some involuntary twitches of left arm. On the fourth day after the operation, I slightly enlarged the opening in the dura mater, and passed in a drainage tube, which acted very well by keeping him on the wounded side. He slept well that night, and next day's report is:—Pulse 84, stronger, quite regular; respiration natural; passes water well, and in good quantity and clean, and comes out of mouth straiter; facial paralysis less; takes his nourishment, and attempts to read the card over his bed. Seeing him attempt to read, I asked him to read the title page of the Life of St. Vincent de Paul; he articulated the word Vincent, but could not articulate Paul, and grew quite confused at not being able to do so. He knew it, but could not say it. I tested him with other words, such as strength, sticking plaster, &c., and he failed in repeating those words also. As the attempt appeared to distress him a good deal, I did not test him in that way again. On the 28th, seven days after the operation, on going to his bedside, I found that he could not reach out his right hand to me, and there was great stupor in his face. He answered any questions put to him in a most indistinct manner. Matter still flowing freely through the opening in the dura mater, and quite healthy. His pulse varying from 64 to 70, feeble; the power of deglutition rapidly failing; bowels acting involuntarily, and bladder obliged to be emptied at intervals. He could be roused, and then the jerkings of right arm were very great. He continued in this state until the 30th, nine days after operation, when he died. I may add that there was very little pus for the last two days of his life. At the *post mortem* I found that the fracture extended from the parietal to the frontal bone; that the left anterior lobe of the brain was one huge abscess; that there was considerable effusion into ventricles and into the upper part of the membrane of the cord.

Cases of Diphtheria, with Observations. By D. C. O'Connor, M.D., Professor Queen's College, Cork.—Read before the Society Dec. 10th, 1868.

Although the subject of diphtheria has been brought before the society more than once, and especially in an able paper by Dr. Cummins, which, without flattery, I would pronounce to be the best condensation of medical opinion on this disease which I have read; still, owing to its great interest, and because some new and important facts have recently come under my notice, I shall lay them before the society,

with some observations, particularly directed to the mode of propagation and the occasional difficulty of diagnosis of this disease.

Though scarcely any one doubts that diphtheria is contagious, there are peculiarities in the manner in which it spreads which distinguish it from every other epidemic disease. If it seize on a member of a family it spreads to the other residents of the house with a certainty not observed in the worst typhus. It also remains longer in the house, and appears to be little affected by its ventilation. It may be carried from one house to another, remote or near, by persons in contact with the patient. Still it does not appear to affect the atmosphere of the neighbourhood generally, as the houses in which it occurred are remote from each other, and, in my experience, not situate in the districts of the city where other contagious diseases are most virulent. In illustration of these views I will call attention to a few facts. A child came from Dublin to a boarding school in the neighbourhood of this city. On the day after her arrival she was suffering from sore throat, which she said other members of her family had laboured under before she left home. I saw her two days after, and recognized the diphtheritic exudation on the tonsils, and had her removed at once to the hospital. Although she only slept two nights in the general dormitory, five other children became affected with the disease in a few days. A child who was subject to slight attacks of fever from gastric derangement, when recovering from one of these, was observed to have the tonsils swollen; and on looking into the throat I found the tonsils and pharynx covered with the peculiar exudation. The child recovered, but in a month after a younger brother got an attack of tonsilitis, to which he was subject. He appeared to be getting well by the ordinary treatment, when suddenly the exudation appeared first on the tonsils, and passing to the pharynx, and finally to the larynx, the child was suffocated. It may be stated that in the first of these two cases I witnessed the rare fact of a recurrence of the disease three times in a milder form. One of the servants in attendance, and the aunt of the children, suffered for months from inflammation of the pharynx, though without exudation, which I believed to be the modified effect of the poisons. Without multiplying facts I shall read two letters which give as striking proofs as any on record—the first of its deportation to remote localities, the second of it concentrated virulence within one family. The first is from Dr. Hadden, of Skibbereen, a member of whose family I had seen in this affection. After stating that a connexion of his was governor of a school in Dublin, he goes on to say:—"In the early part of December, 1865, a tutor and a pupil in the school got sore throat and died. Several of the boys got slight sore throat, and amongst these a lad named W——, from this town, got it, and came home. My son, twelve years old, spent the day after his return with him, and in a few days showed symptoms of

diphtheria. The father of the boy W—— at the same time got slight sore throat, which continued for months, attended with great debility. My sister having visited the school in Dublin, was taken ill and died. Her six children got it, and two died." In this painful record he further states that his two daughters, having attended their aunt, got slight sore throats, and when they came home communicated the disease to one of his children, who died; and another relative came from the same house in Dublin slightly affected with sore throat, but soon after her arrival her sister imbibed the disease and died. Other members of the family suffered, but in a slighter degree. The second letter is from Dr. Tuckey, of Bantry:—"On May 19th I was called to attend Miss ——. She complained of slight sore throat, which she said she would have thought nothing of but that her mother had died a week previously of sore throat, after only four days' illness. The throat presented no unusual appearance. On my second visit, after two days, I found the characteristic appearance of diphtheria well marked. I used strong solution of nitrate of silver freely. She complained of some pain whenever the bowels were moved, which, she said, proceeded from piles; but on examination I found a sore of a peculiar character at the side of the anus—a patch about the size of a penny, denuded of cuticle, dark and sloughy-looking. Around this was some hardness and swelling, with an erysipelatous blush. A few similar sores were scattered on the back and thighs, but all of them much smaller. The sore at the anus was quite external; its nearest edge being distant nearly an inch. The disease in the throat continued to spread. The palate and both sides of the pharynx became affected, but the larynx, as indicated by the voice, never implicated. The strength continued good, and she took a fair amount of nutriment, with a liberal allowance of wine. On the 30th the throat was much better, though some difficulty of swallowing still continued. The sore gradually healed, and in about four weeks she was convalescent, though still weak and suffering from occasional palpitation of the heart. In about a fortnight, on calling in to see her, she complained of some difficulty of swallowing, and a slight feeling of numbness in her hands. The paralytic symptoms increased rapidly, and she died in about ten days. Her death was preceded for two days by complete loss of voice. Her death would appear to be caused by paralysis of the muscles of respiration and of the heart. During the time Miss —— was ill, her father and sister were attacked with diphtheritic sore throat, and both recovered after an illness of about ten days. June 14th, while in attendance on Miss ——, her brother, a healthy young man, twenty-three years of age, complained to me of having a sore near the anus, as he thought, from riding a horse barebacked. On examination I found the parts in precisely the same condition as in his sister's case. Both sides of the anus were engaged,

and the sore extended to the buttock. There were also several smaller ones on the back and thighs. Each consisted of a central black slough, the cuticle surrounding it being raised into a vesicle containing serum, invested with an areola of erysipelatous inflammation. These were of various sizes, from the size of a sixpence to a crown. He did not complain of much pain, and did not feel very ill; had a fair appetite; pulse 120; no sore throat. A few additional sores made their appearance at intervals, and one large one on the shoulder, so that I had an opportunity of observing their progress from their commencement. Each appeared at first like a small pimple or boil, with a central slough, which gradually enlarged and assumed the appearance described above; and all, after the slough had separated, gradually healed, so that in about four weeks all had cicatrized. I examined the throat repeatedly, but without finding any disease there, and he never had any difficulty of swallowing. On visiting, July 22nd, I found him suffering from paralytic symptoms; both hands and legs affected; his voice nasal and indistinct, but no difficulty of swallowing; pulse 100, and easily compressed, and heart's action violent. The paralysis of the limbs increased from day to day; the voice became more indistinct. He began to experience difficulty in deglutition; each attempt at swallowing bringing a violent paroxysm of impending suffocation, during which the efforts to cough were most distressing and peculiar, from being unable to close the rima glottidis. All the symptoms grew rapidly worse; his voice was quite lost, and he died on the 30th. From first to last his throat never showed any symptoms of disease. The peculiar sores and the paralysis gradually increasing until it implicated the whole muscular system, and finally producing death, were precisely similar to the case of Miss —— and his sister, who suffered from well-marked diphtheria. Dr. Swanton and Dr. Donovan, of Skibbereen, saw these cases frequently with me. I may mention that the house is in the neighbourhood of the sea, on elevated ground, and having no other house near it. Though every member of the family was attacked, all those in attendance escaped, and there was no other case in the neighbourhood." All the peculiarities to which I have referred as to the mode of reproduction of this disease have been forcibly illustrated in the cases which I have read. The great difference which we find in the characters of the several zymotic diseases may be expected if we believe that these are the result of sporules or animalcules, developed in the body, and thence transmitted to infect others at a distance. It is natural to expect that in these low forms of existence there should be differences as to the time of incubation, or the circumstances favourable to their growths, whether within or external to the body; and that thus some diseases are purely infectious, others infectious and contagious. Of the latter some may be contagious at shorter distances than others; some may be transmitted rapidly, others

slowly, through the atmosphere. Generally, it would be more profitable to note these peculiarities than debating about the existence of contagion because of its dissimilarity in different diseases. It will be also learned from these cases how difficult diagnosis becomes at times. All diseases have their maximum and minimum of severity; and in the latter we sometimes only know that a disease had existed when we see its secondary results, which may be as dangerous as if the original affection was of the most marked character, such as the anasarca in scarlatina, paralysis after diphtheria, and secondary syphilis where the primary symptoms were unnoticed. As this disease affects all the blood, it does not follow that it should invariably show its effects on the tonsils in the first instance, which would explain the different forms it assumed in Dr. Tuckey's cases, and would lead us to suspect that a great number of cases reported as idiopathic croup are but diphtheria with the local symptoms developed primarily in the larynx and trachea instead of the pharynx and tonsils. It is singular that the paralysis which forms so leading and dangerous a symptom of the disease in the cases I have related was unnoticed or did not exist when the diphtheria first became the object of special attention, and is not even now referred to in many excellent works on this subject. For this reason I will crave your indulgence while I read for you a statement of his own case, sent to me by a patient and friend of mine, in which every phase of this disease, from its insidious encroachments to the final attack of general paralysis, is described with an accuracy and clearness which could not be surpassed by any professional writer. It would be well for medical science if we oftener availed of the means of elucidating disease when we meet equally trustworthy and intelligent patients. The writer is the Very Rev. Canon Sheehan, of Bantry, whose recovery was as much a matter of surprise as of pleasure to his many friends. As far as this happy result was due to medical skill, the merit belongs to the unceasing care of Drs. Tuckey and Swanton, who watched the case through all its stages:—

"Bantry, *March 9th*, 1868.

"The illness from which I am now slowly recovering has endured, under various forms, since early in November of the last year. I first experienced a very slight soreness of the throat, which caused a little pain in swallowing. The inconvenience was so small that I did not speak of it. On my return home in the evening I was attacked. I thought the soreness was the result of cold, which I expected to pass speedily away. I dined as usual, and did not experience sickness of any kind. Before going to bed I found the difficulty of swallowing to increase so much that I put a warm wrapping round my throat, thinking such simple remedy would be sufficient. I had been in bed only a short time when my feet became intensely cold and my head as inconveniently

hot. I spent a sleepless night, and remained in bed all next day, the soreness of the throat and the consequent difficulty of swallowing constantly increasing.

"It was on a Wednesday I first complained, and the pain went on constantly increasing until Saturday, when I sent for a physician. Before doing so I perceived, on looking at my throat in a mirror, that the tonsils and the parts adjacent were covered over with a white coating which I thought to be an abscess. The possibility of my having diphtheria never occurred to me. I was out of bed and down stairs a part of every day from Wednesday till Sunday, both included. I took very little nourishment, and the fluids which I tried to swallow caused me intense pain whilst passing downwards. I did not sleep at all, and the secretions were either suppressed altogether or very much diminished. The symptoms went on, constantly aggravated, from the 12th of November to 21st. For two or three days before this latter date respiration became very difficult, and was attended with a rattling noise in the throat, so bad as to be heard at a considerable distance from the room where I lay. My voice, too, became husky and suppressed, and utterance was difficult and hardly intelligible. I continued in this state for some hours, when I fell asleep, and awoke after an hour or two raving and violent. This subsided after a short time, and I felt that I could swallow with less difficulty. During the worst periods of my illness the only sustenance I could take was milk, and of this I partook largely. By very slow degrees I got better, and the expectoration, which had been copious from the beginning, still continued undiminished. After some days of great lassitude I was well enough to get up, and soon left my room for a neighbouring apartment, where I spent the days. I was able to swallow a few oysters and minute morsels of animal food without acute pain, but yet with much difficulty. All liquids had a great tendency to pass out through the nostrils, and frequently did so escape. The bowels throughout were obstinate, and never acted except coerced by medicine. Whilst in this state of slow and doubtful recovery, I was seized one night with a sudden chill and trembling. I spent a great part of the night coughing, and the expectoration was more than usually copious. I felt a wheezing in the bronchial tubes, which made respiration at times very difficult. I had to take to bed once more, and give up the use of the little animal food which I had been previously in the habit of taking. This condition lasted for several days, and I was debilitated to the very last degree. On Christmas eve I fainted, and felt as if my end was approaching. However, I rallied once more, the cough became less troublesome, the expectoration diminished, and I became decidedly better. On 7th January I was well enough to be removed from my own house to Bantry, and I experienced much benefit from the change of air; but a new and most distressing phase of the disease was beginning to exhibit

itself; I found gradually coming upon me a sense of numbness in the hands and feet, succeeded by the very disagreeable sensation popularly known as pins and needles. This went on increasing rapidly, and my feet began perceptibly to swell. Great weakness of the muscles of the arms and legs rendered walking or grasping anything very nearly impossible. I lost in a great measure the power of regulating the movements of my limbs, so that if I stretched out my hand to take anything, it was wide of the object I intended to lay hold of. A certain contraction of the muscles of the arms gave me the sensation of being pinioned. I could not raise my hands higher than my shoulders. There was no perceptible swelling in my hands, but it needed the evidence of my eyes to persuade me they were not of enormous size and filled with hard circular protuberances. The tension of the skin of both hands and feet was so great that I frequently felt as if it would burst. During this latter stage of the disease my appetite continued very good, and the digestive organs were quite healthy. My rest too was generally unbroken, but sometimes I was kept awake by nervous twitchings in my feet and hands, and uncontrollable desire to change their position from one part of the bed to another. In going up stairs or into a vehicle, it was necessary some attendant should raise my feet one by one, my own strength not being sufficient to lift both. My hands were so useless that I was incapable of performing the smallest offices for myself. Now, happily, these distressing conditions have been very much mitigated. I can perform all that appertains to dressing and undressing without any assistance, and I can walk, helped by a stick, or leaning on a companion, for a considerable distance. My feet are still much swollen, especially at night, but by morning they resume their normal dimensions."

From this period the improvement was gradual, but certain, till perfect recovery. The treatment in varying symptoms of the early stages of the disease was such as is generally adopted. In the latter, more rare affection, paralysis, he got a warm bath every night, followed by a few grains of James's powder, united with blue pill every alternate night, and a sixteenth of a grain of strychnine three times a day.

A question might be raised as to whether the paralysis in these cases is the result of the action of the nervous centres, or on the peripheral nerves. The latter appears to me the more correct explanation of the phenomena; otherwise, the paralysis would be greatest when the poison is in fullest force; whereas, it does not appear for weeks, sometimes months after. It is more likely that the poison is slow in its elimination from the body, like syphilis, and affects the peripheral nerves on its passage to the cutaneous surface. The length of time which it lingers in the blood, would also afford an explanation of the length of time it lingers in a family, communicating its deadly virulence from persons who were supposed themselves to be long free from the disease.

Selections from the Dutch Archives of Medical and Physical Science ("*Nederlandsch Archief voor Genees en Natuurkunde*"), Vol. iii., Parts 2 and 3, and Vol. iv., Parts 2 and 3. Utrecht, 1867–68. Translated by William Daniel Moore, M.D., Dub. et Cantab.; M.R.I.A., L.K.Q.C.P.I.; Honorary Fellow of the Swedish Society of Physicians, of the Norwegian Medical Society, and of the Royal Medical Society of Copenhagen; Secretary, for Sweden, Norway, and Denmark, to the Epidemiological Society of London.

[*Continued from* Vol. xlvi., p. 256.]

On General Progressive Paralysis. By Dr. C. K. Hoffmann.—In the autopsies of persons dead of general paralysis, which the author had the opportunity of performing, he found at one time great thickening of the walls of the vessels (in the white substance too), with almost complete integrity of the ganglionic cells; at another, especially when the dementia was strongly marked, an exquisitely distinct fatty and pigmentary degeneration of the ganglionic cells, and retrogressive metamorphosis, combined with thickening of the walls of the vessels. At the same time there was very well marked fatty and pigmentary degeneration of the ganglionic cells of the thalamus opticus and the corpus striatum.

The condition of the spinal cord in general progressive paralysis is extremely interesting. After Westphal had previously pointed out that, in some who had died of general paralysis (at least in that form of the disease in which for years severe excentric pains had preceded the lesions of motility of the inferior extremities, and which exhibited a character analogous to that of tabes dorsalis), an affection of the spinal cord, consisting in a degeneration of the posterior columns, also exists, he has again, latterly, directed attention to this fact (*Virchow's Archiv*, 1867. Bd. xxxix., pp. 90, 350, 592), and has, after long continued investigation, arrived at the result that, not only in the variety referred to, but in *all* patients suffering from general paralysis, an affection of the spinal cord occurs. He has demonstrated a degeneration not only of the posterior columns, but also of the lateral columns of the spinal cord, and has been able to trace this pathologico-anatomical change even into the medulla oblongata and the pons.

Especially the latest communications of Westphal induced Hoffmann to repeat his investigations. Only one case of general paralysis occurred to him after this time, and in it he was enabled completely to confirm the results of Westphal's researches: both in the fresh state, and after treatment with bichromate of potash, numerous amylaceous corpuscles, granular cells, and granular masses, were seen in the posterior columns, while the investigation of sections of hardened preparations exhibited

very distinctly loss of nerve-elements. Moreover, he had an opportunity of examining the spinal cord of a person who had died of general paralysis, which was kept from previous dissections in a solution of chromic acid, and in this instance, too, he found Westphal's communications respecting degeneration in the posterior, and partly also in the lateral columns, completely confirmed (*Nederl. Tijdsch. v. geneeskunde*. D. IV., afd. 2. bl. 126). From the *Nederlandsch Archief voor Genees en Natuurkunde*. D. III., 3e Afd. 1868, p. 531.

On Degeneration of the Ganglionic Cells of the Brain. By Dr. C. K. Hoffmann.—In the cortical cerebral substance of a patient labouring under chronic mania, melancholia, but especially dementia, the author saw shining, corrugated, more or less triangular corpuscles, measuring from 0·009‴ to 0·015‴, which were nothing but the last term of a series of pathologico-anatomical changes of the ganglionic cells. He describes the process as follows:—

"After the ganglionic cell was first almost entirely permeated with fat and pigment molecules (the nucleus and nucleolus, however, always remaining intact, and the former appearing only a little compressed), slow resorption of these pigment and fat molecules seemed to take place. Meanwhile, the protoplasm which remained contracted more and more around the nucleus, and diminished both the number and the extent of the protoplasm outrunners; finally, it was scarcely possible any longer to distinguish a layer of protoplasm around the nucleus, except where the greatly attenuated outrunners emerged. The nucleus now began to assume a more pyriform shape, and acquired a glittering exterior. The nerve filament, which with normal ganglionic cells is to be preserved only with the most extreme care, seemed in this instance to have kept much longer. At least, I often found in ganglionic cells which had become very thin and slender, and had lost nearly all the protoplasm outrunners, the nerve outrunner still very well preserved.

"The form of the nucleus now became gradually more and more triangular; the protoplasm outrunners, reduced to one or two extremely slight filaments, were at length completely lost; the protoplasm itself entirely disappeared; the nucleolus, which seemed longest to resist the pathological change, was at last seen with difficulty, under the strongest magnifying power, as an extremely small shining point, and finally totally vanished—and now we found the above described triangular corpuscles as the ultimate link in the chain of the process of retrogressive metamorphosis. Even where all the protoplasm had disappeared, and the nucleus was shrivelled, but the nucleolus was still preserved, I sometimes found a nerve-filament hanging to the nucleus."

In examining the normal structure of the cortical substance of the brain, the author sometimes found, in young animals (rabbits), isolated

ganglionic cells, on which the nerve-outrunner was still very distinctly perceptible. With a strong magnifying power, and close examination, he could trace the nerve-outrunner through the protoplasm, and the nucleus to the nucleolus, so that even in the ganglionic cells of the central organs (of rabbits at least), the nerve-outrunner appears to take its origin from the nucleolus, just as Beale and Arnold have demonstrated with respect to the ganglionic cells of the sympathetic nerve of the frog. The farther the degenerative process is advanced the more atrophied is the cortical substance, and the paler is its colour. (*Nederl. Tijdsch v. geeneeskunde.* D. IV., afd. 2, bl. 111.) *Nederlandsch Archief.* D. III., 3e afl. Utrecht, 1868, p. 529.

Investigations with respect to Aqua Laurocerasi. By J. Broeker, Apothecary to the Forces.—This paper contains statements, from various authors and pharmacopeias, relating to Laurel water; and investigations by the writer himself. In the latter he proposed to answer the question: What influence the time of collecting the leaves may have on the amount of prussic acid present. In order to answer this question, he collected, every month during a whole year, fresh leaves of the Prunus Laurocerasus, and each time prepared with them Aqua Laurocerasi, according to the directions of the "Netherland's Pharmacopeia." The results of this series of experiments are as follow:—

Months.		Quantity of Cyanide of Silver from one ounce.	
		Milligrammes.	Grains. (±)
November, 1864	6 drs. leaves of laurocerasus, *cut fine*, digested for 24 hours, with 12 drs. of water, at 59° F., 5 drs. being distilled from the same in a glass retort.	250	$3\frac{3}{4}$
December, ,,		170	$2\frac{3}{5}$
January, 1865		170	$2\frac{2}{3}$
February, ,,		120	$1\frac{7}{8}$
March, ,,		220	$3\frac{1}{3}$
April, ,,		170	$2\frac{2}{3}$
May, ,,		200	$3\frac{1}{5}$
June, ,,		250	$3\frac{7}{8}$
July, ,,		300	5
August, ,,		240	$4\frac{2}{3}$
September, ,,		280	$4\frac{1}{3}$
October, ,,			

From these results it appears that in 1865, a year in which the summer was very warm, and in which vegetable growth was extremely early and abundant, the leaves plucked in July yielded the largest quantity of cyanide of silver in the laurel water. In the following year, the October leaves seemed to yield the strongest water. Of course the

nature of the soil and of the weather may always modify these results. As to the mode of preparation, experience showed that the strongest water is obtained by cutting the leaves small, and thereupon distilling directly. To distil from the leaves whole is a quicker method, which usually affords a water which still is stronger than the Netherlands Pharmacopiea requires.

Pemphigus in the Form of an Intermittent Fever. By Dr. VAN DIEREN.—On the 19th of July I was sent for to see the child of L. S., farmer, aged two years, which had already been three days ill. I found a considerable elevation of temperature (104° F.), quickness of pulse (120°) and dryness of the tongue. The child was raving, and had, from time to time, convulsive twitchings in the arms and legs. But what struck me most were vesicles on the face as large as beans, exactly resembling vesications produced by a burn, and visible on no other part of the body. My first inquiry was whether the child had burned itself. But the mother assured me that nothing of the kind had happened, as the child had already been for three days confined to bed, and the vesicles had not appeared until the middle of the day on which I was sent for. The child was, moreover, as she told me, not annoyed by the erysipelas, though the spasms, which she had observed also on the previous day, distressed her. On further inquiry, I found that the child was more lively in the morning, and that she had then an inclination to play, though not as formerly. Her appetite was quite gone, and her bowels regular. She was always worse in the afternoon—drank much; and these symptoms had gone on increasing from day to day. The child, the youngest of five healthy children, appeared in good condition, and up to the present time had always been in good health. The father and mother are free from syphilis. I therefore diagnosed pemphigus, and to this cutaneous disease I ascribed the feverish symptoms. The vesicles were filled with clear fluid, and the surrounding red areola was distinctly perceptible. They were scattered, to the number of eight, over the face, and two of these were half on the hairy part of the forehead. I prescribed cold to the head, rest, and a mixture with nitre. On the following morning I visited the little patient, and found a complete change: the child was in good spirits, and had taken a little milk; the temperature was normal, as was the pulse, and the tongue was moist. The vesicles had all burst, and some were already dried—some had been scratched by the child, so that the red and moist skin, stripped of its epidermis, was still visible. In the afternoon I was again summoned, as the child was still worse than on the previous days. I then found the temperature once more elevated, the pulse accelerated, convulsions and delirium had supervened, but there were now no pemphigus-vesicles on the face, though there were some of the same

size and form on the backs of the hands and of the forearms. The affection followed the same course as on the preceding day. On the following morning the temperature was again normal; some vesicles had burst, most of them, however, were still present. The distinct intermissions in the elevated temperature led me to try the sulphate of quinia. Two grains were taken by the child before midday, and when I returned in the afternoon I found her free from fever—nor from that time were any fresh pemphigus-vesicles seen. The contents of those which still remained were turbid; the others had dried into a crust. On the following morning, the 21st of July, the child was perfectly well, having once more taken the same dose of quinia, and she was soon restored to her usual state.

Non-syphilitic pemphigus is a rare disease, especially in young children, and its course is not always equally favourable. Writers have distinguished an acute and a chronic pemphigus. The former is the more favourable, the latter is often fatal. Acute pemphigus, also called the benign, occurs still more rarely than chronic pemphigus. It is always accompanied by fever, at one time slighter, at another more severe. The disease usually lasts from two to four weeks, accordingly as the eruptions of vesicles are more or less numerous, and it almost always terminates spontaneously in recovery. The chronic variety commences in general without any remarkable concomitant symptoms, and, while sometimes for months together one formation of vesicle follows another, it is only at the end of the disease that fever supervenes, by which the gradual exhaustion and approaching death are accelerated. Such is the ordinary course of pemphigus. Cases of an acute nature have lately been described by Mosler and Steffen, and also by Thomas in the *Archiv für Heilkunde*, (4 *Heft*, 9 *Jahrgang*, 1868). The case observed by me differs somewhat from the ordinary course, inasmuch as it exhibited a distinct type of complicated intermittent fever, and as recovery rapidly followed the administration of quinia. In one point of view, however, I found a striking analogy, namely, the elevated temperature, which was observed also by the above-named writers at the time of the eruption of the vesicles.

Emphysema Palpebrarum. By Dr. VAN DIEREN.—In September last, G. V. S., a peasant, aged twenty-five, got a blow of a neighbour's fist on the nose, which was followed by formidable epistaxis. When the bleeding ceased and he blew his nose, he observed that his left eyelids suddenly swelled up and that he could no longer see. He came at once in distress to ask my assistance, crying out that he was struck blind. I found great swelling of the lids of the left eye, without discolouration, the swelling extending to the temporal region. The lids were extremely tense, so that I could with difficulty see anything of the globe of the eye. Pressure

gave rise to not the slightest pain; only at the side of the nose, close to the inner angles of the eye, was there a sensitive point. Pressing with the tops of the two first fingers over the whole swelling, I could distinctly hear a crepitation, such as we usually perceive in a piece of lung, and when I pressed in the direction of the nose, I was able to cause the disappearance of the swelling. When the patient blew his nose the lids swelled up with the same rapidity. I could in this way easily satisfy myself that the globe had not suffered.

That I had here to do with an accumulation of air in the subcutaneous connective tissue, is evident; but in what way in the compression of the nasal cavity, the air penetrated was not clearly established. Fracture of one of the bony walls of the nose, in favour of which were indeed only the painful point and the occurrence of the epistaxis, appears to me plausible. The treatment consisted simply in the application of a compress and a caution not to blow the nose. As a "placebo" I prescribed some Goulard lotion.

It appears that literature is not rich in such cases. Robert Taylor,[1] at least, asserts that these occur so rarely, that even oculists of great experience have never seen them. He therefore communicates a case; the exciting cause was a thrust with a finger, which one young person inflicted on another in the inner angle of the right eye. Except the epistaxis the symptoms were the same as in the case observed by me, accumulation of air on blowing the nose, and disappearance of air on pressure. For the encouragement of the young physician, he adds, that the diagnosis is extremely easy, and that *the accumulation of air occurs simply through a traumatic rupture of the lachrymal sac.* The exciting cause, the crepitation of the air, and the ease with which the eyelids swell on blowing the nose, are to him satisfactory proofs thereof. Laurence, however, does not agree with Taylor on this point, for he gives in the same journal a similar case which occurred in his practice, but he arrives at a different conclusion. The case was that of a drunken bricklayer, who, through a fall, got a small cutaneous wound at the root of the nose, after which the left eyelid swelled up on blowing the nose. "*There is no doubt,*" says Laurence, *that the accumulation of air in the subcutaneous connective tissue of the eyelids was caused by a fracture of one of the nasal walls.*"

We thus find two different causes assigned for one and the same effect. Without wishing to give any decision on this point, I believe that we cannot be perfectly sure of the correctness of either explanation. It is, however, fortunate for the patients, that this diagnostic uncertainty has no essential influence on the treatment, for both Taylor's and Laurence's patients recovered under the same mode of treatment as mine.

[1] Ophthalmic Review, April 11, 1867.

1. Sea-sickness and how to prevent it; an explanation of its nature and successful treatment through the agency of the nervous system by means of the spinal ice-bag, with an introduction on the general principles of neuro-therapeutics. By John Chapman, M.D., &c. 2nd ed. London: Trübner. 1868. 8vo, pp. 112.

2. Cases of disease of the nervous system the subjects of inherited syphilis. By J. Hughlings-Jackson, M.D., F.R.C.P. London: Churchill. 1868. 8vo, pp. 22.

3. Lectures on the preservation of health. By Charles A. Cameron, Ph.D., M.D., &c. London and New York: Cassell, Petter, and Galpin. 1868. Crown 8vo, pp. 182.

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A.

B.

A. Microscopic character of cells composing tumour.

B. The same with fibrous tissue predominating.